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THE MYTH OF MEDICINE

Herbert M. Shelton

PREFACE

Jean A. Oswald

author of

Yours for Health: The Life and Times of Herbert M. Shelton

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PREFACE

Herbert M. Shelton was one of the world's leading critics of Modern Medicine. He informed his readers of the many dangerous practices of Modern Medicine while advocating the practices of a system of health care called Natural Hygiene. From 1920 to 1985 he labored relentlessly in an effort to tell the world that health is built, not bought. Healthy people will bankrupt and destroy the drug industry: A successful drug industry will wreck health and shorten the lives of people who support the drug industry.

The cures can come and go but the curing goes on forever, he proclaimed. Many "wonder drugs" and "revolutionary procedures" soon disappeared when it was discovered that they did more harm than good. The physician is preoccupied with intervention rather than prevention, having an infatuation with drugs and technology, losing sight of good common sense.

Rubies in the Sand (now *The Myth of Medicine*) was written twelve years prior to an article in *The Jewish Press* (Brooklyn, New York, June 19, 1973) which carried the following item from Tel Aviv:

The number of funerals has dropped by nearly half since the doctor's strike began last week, according to statistics released by Jerusalem Burial Society.

Statistics called from the archives of the Tel Aviv Burial Society showed a similar drop in the number of funerals 20 years ago when the doctors last went on strike...

When the physicians struck in Toronto and in Holland a few years later there was a similar drop in the death rate.

The fact that a great reduction in the number of funerals occurred so quickly after the strike began was *not* a coincidence, stated Shelton. He believed that physicians often bury their mistakes.

Shelton did not advocate that physicians have less compassion and integrity than the rest of humankind. He knew that there are needs for surgery and he states in this book, "A skilled surgeon, one who is both conscientious and understanding, is a valuable person to have around on numerous occasions." Some physicians *do save lives*. They are at their best when challenged by medical emergencies. They are at their worst when they feel compelled to *do something* in order to satisfy themselves or the patient. Shelton likened the physician treating symptoms to that of a captain of a ship lost at sea, groping in the dark without a compass.

It is the teachings and principles of Modern Medicine that Shelton opposed. "An exulted genius," Shelton said, "cannot do the right thing with the wrong tool." In this volume he exposes that what is called "cure" of disease has brought disastrous consequences to millions. It is one thing to "cure" disease—it is quite another to restore the sick to health. Under drug treatment the symptoms may subside but in their places are left ailments that are often serious and sometimes fatal. Healing belongs to the living organism.

Shelton believed Natural Hygiene was superior to Modern Medicine. The practice of Natural Hygiene regarded building our inherent immune system within our physiology by living healthfully. Shelton taught us that health care is self-care and that we need to broaden our outlook in order to place responsibility for disease at a deeper level of consciousness where potential healing could be found. Shelton describes the Hygienic mentality in his prescription for an adequate supply of the normal requirements of healthy life—mental, physical and physiological rest, adequate food, fresh air, exercise, sunshine, warmth and cleanliness. Shelton looked for causes of impairment and removed them. Causative factors include every act, habit, indulgence, circumstance and material that either remotely or immediately impairs the structural integrity of the organism. Trying to remedy disease without removing the cause is like trying to sober a drunken man while he continues to drink.

"Go and educate the layman," Shelton often said, for it is the layman who will think, listen and respond. Physicians on the other hand, he felt, were often blinded or brainwashed with an array of unfounded theories about sickness and disease. But the layman, particularly after going through a process of taking drugs, is often willing to turn to Nature's own plan of care. Only Nature heals the body and has the inherent power to do so. In this book Shelton teaches that healing is a biological process, not an art. Healing is not something that is done for the living organism but something that the organism does for itself from within.

Shelton's hygienic principles and teachings of the basic laws of life did not change in the sixty years he had brought them to the attention of the public. Although Shelton never proclaimed to have all the answers to disease, health and healing, over a period of time, the hygienic principles he advocated were proven correct and validated. In years past, he was called a quack. And most often his teachings were called quackery by members of the medical profession. Today the dissent in Medicine is not different, but Shelton's works are now *avant garde* in health reform.

I recall a conversation with Dr. Shelton at his once famous health school in San Antonio, Texas. It was the early 1980's. Dr. Shelton communicated to me with great enthusiasm and emotion his desire to update, reprint and finish the new Foreword to a second edition of *Rubies in the Sand*. At the time, many orders and inquiries as to where to purchase his book were being sent to Shelton. But the work was unfortunately out of print. He wanted so much to have the book available to the public.

After Shelton's death in 1985, the project laid dormant for nine years. Then John Lodi, a retired printer/publisher, saw the need to carry on what Shelton was unable to finish in his lifetime. Lodi had been receiving frequent requests for the whereabouts of Shelton's classic. Many thanks to Lodi for carrying out one of Shelton's last wishes. Here at last the work lives on.

To those who ask questions such as:

Is this surgery *really* necessary?

Will a new illness develop from the side effects of this drug? One perhaps that is worse than the one for which I am being treated?

What is the danger involved in taking this immunization?

Can this be an outpatient procedure or does it require a stay overnight in a hospital?

Is it better to die with dignity at home surrounded by family rather than choose an eleventh hour means of medical life support?

Then this is the book for you. And to those who desire to know the circumstances surrounding the beginnings of the medical system, then this is the book for you to discover for yourself what is myth and what is truth.

—Jean A. Oswald

September, 1994

Author, *Yours for Health:*

The Life and Times of Herbert M. Shelton

A valid system of mind-body care must not be a fabricated system that some group of men have woven together out of disrelated elements, but must be constituted of the very elemental factors of life itself. It must have its roots deep in the daily life of the plant and animal world; it must be an essential part of the life world. It must be both universal and eternal in its application; it cannot be a mere fragment of truth, but must be truth itself. It must be permeated by a unifying principle that sets each factor-element of a sound system of care into its proper place and thereby creates a grand harmony and an easily understood system.

A system of care that satisfies such enormous demands cannot be of an ephemeral nature nor can it be something that is susceptible of merely local application. It must not aim merely at one special condition of the human body and mind, one special field of organic existence, but must meet in all of its details, all of the conditions of existence. Indeed, it cannot be partial to any one form of life or to anything that has to do with the support of life.

It must be founded in the very constitution of being; it must meet all the basic needs of life; of all life, both in health and in sickness; it must be susceptible of adjustment that it may be precisely fitted to the varying conditions and needs of life under all of its various and varying circumstances and conditions. In the very nature of things, it must have been part of the life of the world from the beginning of life on this earth.

Such a system can rest only upon true principles, hence it will be absolutely identical for each and every human being, without regard to race, creed or color, without reference to climate, altitude, age, sex or occupation. Such valid principles will form the rules of its application and serve to harmonize its elemental factors. Such a system does exist and has always existed and constituted the primitive way of life of man. A return to the primal way of existence and a casting off of the artificial fabrications of man will lead man back to his pristine perfection.

— Herbert M. Shelton

CONTENTS

	Foreword	1
	Introduction	5
1	Hidden Jewels	11
2	The Crystal Fountain	22
3	Light From Eden	29
4	Eden Revisited	38
5	*Man's Original Hygiene	52
6	A World That Was	68
7	Westward From Eden	89
8	Man's Primeval Majesty	95
9	Heritage From Eden	103
10	It Is God That Heals	111
11	Eden's Golden Glow	118
12	Lucifer on Eden's Doorstep	142
13	Clouds Across The Sky	155
14	The Dragon's Teeth	158
15	Noisome Weeds in Paradise	161
16	Shadows on the Moon	164
17	Witches in Eden	169
18	Mephitic Vapors	179
19	The Father of Physic	190
20	Extinguishing the Light	199
21	Glowing Embers in the Dark	207
22	The Gods Come to Earth	211
23	Dark Detour	218
24	*Medicine in the Middle Ages	240
25	*Renaissance Medicine	249
26	*Nineteenth Century Medicine	259
27	*The Development of Modern Medicine	265
28	*Twentieth Century Medicine	269
29	The New Dawn	278
30	*Criticisms of Modern Medicine	285
31	*Chaos and Tyranny	294
32	Resplendent Horizon	298
33	Eden Restored	309
34	Light of Life	318
35	The Great Deception	328
36	*What Is Needed	342

* Addendum (Chapters intended for the second edition of "*Rubies In The Sand*")

FOREWORD

The first edition of this little book was published under the simple title, *Rubies In The Sand*. It is presented here unchanged except for this Foreword and the Addendum. The book was originally written in an effort to uncover from the sands of time precious jewels of truth about health, disease and healing and to discover, if possible, the means of preserving and restoring health that were so successfully employed by our primeval forebears before the origin of the first shaman, priest and physician. It is a source of much satisfaction to the writer that he was eminently successful in this effort. It is also gratifying to know that mankind never actually lost these precious jewels. They have simply been pushed aside and neglected while all the emphasis has been placed upon anti-vital, inhuman and unnatural methods and systems that have been offered as substitutes for nature's own plan of care. The system of Natural Hygiene that I have stressed in the following pages is not a new discovery, but a revival.

Hygiene is the employment of materials, activities and influences that have a normal relation to life, in the preservation and restoration of health. In other words, hygiene is the employment of nature's own means of life in the care of both the well and the sick.

Vegetarianism and other forms of dietary reform, physical culture, the various psychological and metaphysical movements, etc., are mere fragmentary approaches to the many and complex problems of life and are inadequate to meet the needs of modern life. Hygiene, by insisting upon an all-out approach to life's problems and upon a total approach to these, constitutes a full system of mind-body care in both health and illth. Other systems resort to treatments, substitutes and compromises. All systems of so-called or alleged healing, both drug and drugless, employ therapeutic means and measures that bear no normal relation to life, fulfill no need of the living organism, and are positively harmful, while their use is predicated upon no known law of life.

What is the relationship between "remedies" and disease? Disease is remedial action. It is the effort of the living system to remove impurities and repair damages. The real remedy is that which enables the body to accomplish its work and that does not hinder or hamper the vital actions in any way. The means to do this are such proportions and combinations of hygienic materials and conditions as are exactly adapted to the degree and kind of needs and capacities of the sick organism.

Hygienists deny that there is any "law of cure" even that there is any such thing as *cure*, and declare that disease should not be *cured*. Disease being the effort of the living organism to restore the normal

state, the causes which necessitate that effort should be removed in order that the effort may be successful; and the Hygienic System (hygienic because it employs only those means which are normally related to the living organism) consists in supplying favorable conditions, so that the effort to remove the causes of disease may accomplish its work, and restore the sick person to health.

Inasmuch as all sick people are alike in important respects, the differences being matters of detail, so a few simple measures are useful and even necessary to all classes of people, well or sick. These needs are to be modified according to the invalid's necessities, but the general principles of care are the same. The power to heal is innate and is a purely biological process. All too long have we ascribed the power to heal to something outside of the sick organism. It is true that we have substituted the term *cure* (originally meaning care) for the term heal, but the idea is still expressed—the *cure* is of foreign importation.

When it is denied that there is any *law of cure*, it must not be understood that there are no laws of life through the operations of which the processes of the living organism restore health. The living organism has within itself means of expelling poisons, of repairing damaged organs, of restoring function and recuperating energy. We say that there are *conditions* of recovery; conditions that must be supplied to the end that the inherent power of recuperation and restoration may work out the recovery of the sick.

Hygiene is not primarily interested in caring for the sick, but in the promotion and preservation of health. We can do this best by extending a knowledge of the principles upon which health depends. Hygiene is based upon the laws of life, and an observance of these laws will secure the health of all who are willing to learn and use them.

It is necessary to understand at the very outset that what is not inherently adapted to our sustenance cannot be made suitable to our needs and compatible with our structures and functions. In the very facts of digestion we discover a coordinated fitness between man and nature which is more clearly detected the more we look at it. It becomes a deep well of truth to draw upon in the sciences and especially in the science of physiology. Only those elements of external nature that are compatible with the inner structures and functions of the living body are susceptible of being used in the building and repair of living structure and in the performance of organic function.

The key to robust life, to functional vigor, to the preservation and recovery of health, to the solutions of the problems of invalidism, lies in an understanding of the normal means by which life is evolved and maintained. As sure as effects follow causes in any and all departments of nature, an understanding of the causes that lead to the evolution of disease will enable us to remove these and provide the causes of health, and thus restore health. In any true science of health

it is impossible to separate the preservation of health from its recovery—prevention from remedy. To suppose there is something essentially different between maintaining health and restoring it is absurd. Who knows how to get well knows also how to keep well, and who knows how to keep well has learned the first and most important lesson of the art of getting well.

It is a cardinal principle of Hygiene that *whatever is introduced into or applied to the body, if it is to do good, to save and not destroy, must hold to the human body, relations that are naturally congenial, so that its influence, when taken in health, shall be good and not disease-producing*. As vital structure can be evolved only out of food, air, water and sunshine, we can distinguish between food and poison without reference to popular opinions.

The structure and vitality of an organism depend upon an adequate and proportionate supply of the organic constituents and the normal conditions of life in general. The materials of nutrition and of healthful functional action are the true remedial means. When health has been lost, the means of restoring it are found in a change of *habits* rather than in a change of *locality*. This is to say, climate and other things that one associates with changed locations are less important than habits. The same materials and influences are required to recover health as to maintain it, only in different proportions and qualities, hence the rule: supply the sick system with whatever it can use under the circumstances.

The adjustment of the factors of living to the varying needs of the body is a continuous process, well or sick, and not something that is reserved for the sick organism. In health the body operates a maintenance service; in disease it seeks to restore health. Improvement in the health and strength of a sick person is often so immediate and spectacular when drugs are abandoned that it is impossible to escape the conclusion that the drugs were the chief cause of continued sickness. The improved health of the invalid is commonly attributed to the alleged operation of the drug, rather than to continuance of the causes of life.

There is no use trying to mix the Hygienic System with the drug system; it is like trying to mix truth with falsehood, oil with water. The fundamental principles of the two systems are the exact opposites of each other, just as their means of care are opposites. There is simply no affinity between them. The physician who attempts to use both systems and who relies upon drugs for part of his remedial resources will fail to make full use of hygienic means. If he has not full confidence in the Hygienic System, and has a severe case of disease to "treat" he will use hygienic means half-heartedly, even doubtingly to a certain extent, and then administer his drugs liberally. The man who has full confidence in Hygiene, both in its power to preserve and to

restore health, handles the same disease and he will bring the full resources of the Hygienic System into use to better purpose. Hygiene is not to be judged by the partial use to which it is put by those who attempt to mix the Hygienic System with the drug system.

The greatest discovery ever made in our knowledge of healing was not the discovery of the alleged healing properties of some noxious weed or of the curative virtue of fungi or mineral poisons, but that the remedial power resides in the living organism and not in things extrinsic to it. As a result of this discovery the search for cures should have ceased. It should have been recognized at once that a self-healing organism does not need and cannot use cures. All the healing power of which we know exists in and is part of the living organism. The healing processes are as much a part of the living organism as are the processes of digestion, assimilation, circulation, secretion, respiration and reproduction, and man cannot initiate, imitate or duplicate these processes. The health processes are identical with the orderly regular processes of living. There may be and usually are some slight modifications of these regular processes; a diminution of some, a dramatic exaggeration of others, but they are essentially the same processes. We live, and all processes of living are processes of maintaining the integrity of the organism in the face of constant wear and tear and frequent injury. Healing is integral to the living organism.

The man who understands this fact can look quietly on while the vital processes in the sick person's own body are quietly and sometimes violently eradicating the toxin and repairing damages, not by the use of substances that have no normal relations to life, but *by use of those same materials and conditions that are the constant source of its daily renewal*, thus obeying the hygienic principle of health by healthful living.

INTRODUCTION

In the following pages I have endeavored to separate the many practices of mankind that have, heretofore, been classed as *medicine*, from the bewildering mishmash that the historians have created for us, into their logical classifications, and to set each element in its proper place. I have attempted to separate the normal, necessary practices and activities and instinctive behavior patterns of man from the magical practices of the *shaman* and each of these from the poison practices of the physicians. I have attempted to disentangle medicine from the system of magic from which it demonstrably evolved and from which the cleavage has never been quite complete. In all of this, I have endeavored to go beyond the medical "histories" and construct a fresh synthesis on a basis, both of historical and archeological data and biological and *hygienic* data that the historians persist in ignoring or ridiculing.

It has been observed that the synthesis achieved in one day requires years of previous analysis. The new synthesis here presented is the work of nearly four decades of analysis. I do not assert that this book could not have been written by some other hygienist (perhaps some other hygienist could have done a much better job), but I do assert that only a hygienist could have written it. Only one well versed in the principals and practices of Natural Hygiene could have separated the different practices of the past, one from the other, and re-synthesized them in the manner that is here done. The reader is, therefore, invited to undertake a study of history such as he has never undertaken before, and, at the same time, to acquire a new and, what must appear to him to be, a radically different view of life and of man's past insofar as our subject relates to his past.

I have undertaken to write this book in a modest effort to clear away the accumulated mental debris of centuries and to get down to an honest investigation of the genuine factors that build and sustain good health. Our aim is not, primarily, to gain a knowledge of the past as the archeologist, anthropologist and historian may seek such knowledge, but to understand the best that the ages have to offer us in the way of care of ourselves both in health and in sickness. If it be thought that the best means of solving such problems is a careful, even an exhaustive mastery of modern science, I reply that, while fundamentally, this is a correct position, *modern science*, insofar as it deals with the problems before us, is still in a more or less chaotic state and is, in most particulars, wedded to the past without a genuine understanding of that past. If we acquire an understanding of the fundamental and perennial problems of human life and focus our

thinking upon this and direct our actions by this understanding, we may get further than we now are.

The term *medicine*, in the hands of the historian, is somewhat like the term astronomy in the same hands. Just as the term astronomy is frequently employed to designate the astrological lore of the ancients, so the term medicine is used in reference to ancient magical and sacerdotal practices. Medical as well as academic historians are guilty of this misuse of the term medicine, for it is only thus that they can provide the system of practices that is called the medical art with an ancient pedigree.

Antiquity, that universal passport to popular confidence, will not long serve the medical profession, for it is now shown in the pages of this book that its antiquity is not as great as is generally supposed and that most of what is called medical history is pure fabrication. I do not charge that medical men and historians have entered into any conspiracy to mislead the people, but I do say that they could not have done a better job of spreading confusion than they have done had they entered into such a conspiracy. I have shown that medicine is but a little over two thousand years old and I have shown that there are, and have always been, far better means for caring for the sick than those that are practiced by the men of medicine.

It is always best to know the truth, let the consequences of its admission be what they may. Is it, then, too much to expect that you, gentle reader, will listen candidly to what I am about to say and that you will give my statements that measure of reflection that the intrinsic importance of your sufferings would seem to warrant? I have no patience with that great mass of humanity who tend to follow the specialist, who suffer, as Seate says, with mental inertia, those who, in other words, find it much easier to accept than to investigate. These want tailored beliefs from the hands of others which they may put on without putting forth any effort of their own in their creation. They seem to want their tailored beliefs so carefully fitted by the experts that they may be accepted without alteration. They want something they can absorb from the "authorities." I recognize no authority save truth; I refuse to accept *authority* for truth.

As long as our so-called thinkers take the unwarranted position that the road to truth must be through certain approved and pre-determined channels and no other, many vital truths will be missed and ignored by men who are supposed to be leaders in their fields of knowledge. Even the specialist who has done considerable thinking in his own field, who may, as a matter of fact, have done something outstanding, is prone to be very orthodox in all fields outside of his own specialty. As amazing as it may seem, the greatest of our specialized thinkers are thoroughly orthodox in their political views, and swallow poisonous drugs with the same blind faith with which the

most ignorant man among us swallows the same drugs. They accept views about health, disease and healing ready-made from the hands of interested specialists with an alarming lack of critical acumen and analytic approach. Even those relatively rare men who, experts in one field, have made a name for themselves as being willing to think in other fields, are not prone to think when any subject that is called medicine is broached.

We must be avid for orientation and abandon our stupid notion that only careful approaches to new facts are acceptable. If our native curiosity that led us, as prattling children, to be forever troubling our parents with the question, "why," has been conditioned out of us, if we have no curiosity about what goes on around us and why it goes on as it does instead of some other way, we must re-acquire our questioning and questing attitude and begin to learn the truth for ourselves. In the field of medicine the attitude that "my physician knows" is out of date. We have watched them long enough, have noted their frequent changes of theory and their incessant changes of methods of treatment, to know that they do not know. They are groping in a darkness that is stygian.

Sociologists continue to lament the "alarming trend of the post-war period which has jeopardized the future of science and changed the lives of scientists so profoundly," but they seem to be blind to the real causes of this conversion of scientists into lackeys of the commercial interests. Not knowing the cause, they cannot point to the remedy. In addition to this, any sociologist who should dare expose the cause and point to the remedy would quickly lose his job. Perhaps it is this job-insecurity that renders them blind. There is an amazing amount of that kind of blindness that can see and won't in our world today.

We have watched the exploitation, by the chemical industry, of the sulfonamides, the antibiotics, ACTH and other drugs and we know today that the medical profession is exploited as extensively by the chemical industry as is the general public. How little the profession knows and how much they depend upon the manufacturing drug industry to tell them how to treat their patients and with what to treat them is revealed daily before our eyes. That the physician is the prey of economic forces over which he has no control is, however, but one of his glaring faults. He is the victim of an ignorance that is lamentable and the recipient of a fabricated tradition that is comical and for which medical and academic historians are responsible.

Contemporary academic history is characterized by a medical orientation of which any true historian would be ashamed. It tends to the view that medicine and historical analysis should be kept separate. Anything and everything that is even remotely related to the care of both the well and the sick is uncritically called medicine. In this, historians apparently follow blindly the lead of medical historians, who

struggle vainly to provide medicine with an ancient pedigree and with a story of continuous *progress*. One history will suffice to provide us with examples of this fabrication of medical "history." *World Civilization* (1954), by Burns and Ralph, says that among the Sumerians "Astronomy was little more than astrology, medicine was a curious compound of herbalism and magic... The third branch of science in which the Egyptians did some remarkable work was medicine!" The Egyptians "noted the curative properties of numerous drugs."

These historians say: "Greek medicine has its origin with the philosophers. The pioneers were Empedocles, exponent of the theory of the four elements (earth, air, fire, and water), and Alcmeon, a member of the Pythagorean school. The former discovered that blood flows to and from the heart, and that the pores of the skin supplement the work of the respiratory passages in breathing. Alcmeon originated the practice of dissecting animal bodies, discovered the optic nerve and the Eustachian tubes, and learned that the brain is the center of the nervous system." Making physicians out of these men because of their discoveries in anatomy and physiology is something like making a student of high school biology into a veterinarian because he dissects a frog.

These historians add: "More important still was the work of Hippocrates of Cos in the fifth and the fourth centuries. If this great physician had made no other contribution than the overthrow of the supernatural explanation of disease, he would still deserve to be called the father of medicine. He dinned into the ears of his pupils the doctrine that every disease has a natural cause, and without natural causes nothing happens. In addition, by his methods of careful study and comparison of symptoms he laid the foundation of clinical medicine. He discovered the phenomenon of crisis in disease and improved the practice of surgery. Though he had a wide knowledge of drugs, his chief reliances in treatment were diet and rest." Thus are large myths built up by piling myth upon myth. I have no doubt that these two historians know well they know no more of Hippocrates than the average reader and that they are well acquainted with the fact that nothing is known of the man. He can hardly be called a historical figure. Nothing is evidence that is not known and it is not known that Hippocrates ever had a student to din anything into his ears.

This refusal of historians, both medical and academic, to separate the many elements that they have jumbled together as medicine has provided us with a confusing mishmash of myth, magic, incantations, religion, herbal practices, massage, water treatments, drugs, surgery, hygiene, etc., with no understanding of any of it. The result of jumbling together these different elements under the rubric medicine has been to confuse the students of history and to utterly

mislead them. Medical historians are liars as much by omission as by exaggeration. They falsify history as much by what they accept as by what they reject. When they write popular medical histories, they glamorize the story as much as they can and hide important facts from their readers. The distortions of which they are guilty in their efforts to write, not history but propaganda, are enough to entitle them to the highest rank in the Annanias Club.

The practice of medical historians picking out some shining light, such as Harvey in the seventeenth century, and building their history around him, making a veritable hero of the man of their choice, and neglecting the actual practices of the time, lends a false glamour to medicine. It is a clever way to lie, but it is not history. Historical reality is by-passed in deference to rhapsodic apology for the sanctity of the profession. Actually, the reader is tricked, however innocently, into thinking that such a man, though often rejected by his contemporaries in the profession, is representative of the profession. Such stories are almost irrelevant because they concern only isolated fragments of the profession, those only (as a usual thing) who can be metamorphosed into medical heroes, and tell us very little about the way the profession was moving and the manner in which it was caring for its patients. The books present no army of physicians busily engaged in ministering to their patients, merely a few shots of a few outstanding men in scarcely identifiable dress. They tell us of studies in anatomy, for example, made by one man or a few, but fail to reveal the practices, not only of this one man, but of his contemporaries in the profession. They do not reveal the true state of knowledge of the profession, nor do they reveal trends. They reveal nothing that went on at the bedside. This is no way to write history, however well it may serve the needs of the biased propagandist.

By dialectics and metaphorical language almost any fact may be twisted to fit in with the general theme of medical progress, although, as I have shown in this book, no continuity of progress runs like a golden thread through the warp and woof of medical history. This is not to say that there has not been any progress in the biological sciences and in chemistry, two groups of sciences that medical men term medical sciences, but it is to deny that in the art of medicine or the science of medicine, as distinct from the biological and chemical sciences, there has been any progress. I will go further and deny that there can be progress in such a field.

When Tennyson said: "Noble the Saxon who hurl'd at this idol a vigorous weapon in olden England," he expressed my sentiments perfectly. Idol smashers are needed in every age and the idols of medicine are long overdue for a smashing. In presenting this book to the people of this land, I hope to merit the commendation contained in the following lines of Tennyson:

When from the terrors of Nature a people have fashioned
and worship a spirit of Evil,
Blest be the Voice of the Teacher who calls to them
Set yourselves free!

So egregiously has the idol of *medicine* always been in the wrong that the worship paid to it during the past four hundred years reflects most discreditably upon the thinking of the people and involves them in the strongest condemnation. Unfortunately, medical men have succeeded in imposing a severe regimentation upon the press, rendering it complacent of their tyrannous suppression of the truth and their obstruction of all efforts towards truth and progress. It is by such nefarious means that the public have been rendered too blind to have even the desire to see. In our press, alas! anything that might harm the holy medical profession is summarily suppressed by this curious guardian of the public interest; thus the press deserves the description given of it by Tennyson:

And the press of a thousand cities is prized
for it smells of the beast,
Or easily violates virgin truth, for a coin
or a cheque.

He who sheds the full light of knowledge upon the darksome ways of medicine and thus frees the mind from the close-knit bonds of superstition, is certain to meet with opposition and slander from the unthinking herd. Men believe anything, no matter how absurd, if it has been sufficiently long taught or if it is sufficiently often repeated and stressed, and they do not abandon their long cherished beliefs, however fallacious, without a struggle. The struggle most often takes the form of an attack upon whoever dares to question their myths and prepossessions. Indeed, they are likely to consider any attack upon these prepossessions as direct attacks upon their persons. I do not hope to escape the slander and misrepresentation that is the lot of all those who dare to expose the age-old fallacies that we accept as fixed truths, but I do hope that many of my readers will be sufficiently intellectually curious to give the pages that follow candid thought and near impartial consideration.

HIDDEN JEWELS

Chapter 1

It was early morning on the day of Sulum (set apart) in Sumer six thousand years ago. On that day not even the king was permitted to eat cooked food, change his garments, put on new clothes, drive in a chariot or "take medicine." Sulum was the day of rest and had been set aside by god himself as a day of rest for man. It was a beautiful morning; the sun was just coming up over the eastern horizon, the gentle southern breeze was cool and refreshing, the odor of wild flowers was wafted in from the fields that surrounded the city, the songs of many birds could be heard as they flitted from tree to tree and the hum of insects was audible on all sides. Only man was resting.

Suddenly, in violation of all the tabus, the air was rent with loud voices of the news boys: "Extra! Extra! Read all about it! History has dawned! Sumerians are now historic people!" What had happened? The sleeping citizens of Sumer awoke, rubbed their sleep-filled eyes and stirred about. They could not have known that the king, who was also the high priest and had a direct pipe-line to the throne of the most high god, had removed the tabu against work and gaiety on that special day. Only the newsman and the boys selling the special edition of the *Sumer Chronicle* were aware of the indulgence.

Rubbing his eyes, the head of one household slowly got out of bed, donned the G-string he wore the day before, and went out to see what all the noise was about. Reaching the front gate, he called to one of the newsboys and purchased a paper. There it was, just as the boys had said, blazoned across the front page in big letters: "History Has Dawned." Under the big headline he read in smaller type: "We are now civilized people. No longer are we prehistoric." He hastened back into the house, musing to himself as he went: "Last evening I went to bed prehistoric man, this morning I awaken historic man. I wonder what changes have occurred in me."

By the time he reached the family living room the whole family had collected in excited expectancy. "What is it, Daddy?" asked his youngest daughter. "What has happened?" He read them the whole exciting story: A genius had invented a means of writing. It was now possible to record one's thoughts and deeds. There followed a glowing account of the long, heroic struggle of the young genius who invented the *alphabet*. But the most exciting part of the story was the statement that prehistoric man had now become historic man. No longer was he to be thought of as a short, squat, bushy browed, prognathic semi-ape that had learned to walk upright. Hereafter he was to be known as a man; a civilized man.

Gleefully, the young folks listened to the startling news. They had not, before that moment, been aware of the changes that had taken place in them during the night while they slept, but, as they heard the heartening news that, hereafter, their descendants will have to respect them and not think of them as mere anthropoids, they were filled with much self-esteem.

The oldest daughter donned a scarlet G-string, the one she had worn to the party the evening before, and wildly danced a light fantastic, so elated was she that now she could attend the movies accompanied by a civilized man; no longer would she be forced to go and watch her favorite hero of the silver screen with a big hairy half-ape as escort. It was, however, necessary to quiet his son, who, upon receiving the earth shaking news, said: "Dad, now that we are historic, can't we get rid of all that horde of gods and goddesses we have been supporting for the past three centuries? I want to be a Christian and have only three gods and one goddess." Such heretical language was dangerous; some of the household gods might overhear him and become angry.

It was a great day in the life of the Sumerians. The newspaper also carried the announcement on the front page that, on that day, in honor of the great event, the gods had consented to suspend all blue laws and permit the people of Sumer to enjoy life. They danced and sang in the streets. In the evening there was music and feasting. The people of Sumer had been elevated to a high place in the world. All around them were people who still resided in the darkness of prehistory, but they had "come of age." No longer did they face the gloomy prospect of being named after some future town near which their bones would be discovered; they were going to leave their records in a more decipherable form and not trust their place in history to a few arrowheads, a piece of broken pottery, a few grains of burnt corn and a fractured femur or a broken knee cap.

The king elevated the genius who had invented the alphabet to the position of Chief Scribe of the Royal Libraries and assigned to him three beautiful young concubines and a young eunuch to take care of the less pleasant duties of the harem. The Chamber of Commerce presented him with a beautiful span of white Arabian horses and the latest model gold-trimmed chariot. The Royal College conferred upon him the honorary degree, Doctor of Literature, while half the maidens in Sumer were prostrate at his feet. A new mansion was assigned to him and he, with his entourage, moved in.

The eunuch, like a young Hebrew eunuch named Daniel, who was later to utter prophesies from the eunuch quarters built over the site where the young scribes house was now located, closed his eyes and gazed far down the corridors of time and warned the young man not to let his fame go to his head. "Your very name shall be forgotten,"

he said, "and the name of your monarch shall be lost. The names of your beautiful concubines shall not be remembered and your chariot shall rot and become dust. Teach the scribes of Sumer to write upon clay tablets and to hide them in underground vaults that they may be preserved for some future archeologist to uncover and decipher, for Sumer shall perish and her very language shall be lost.

"A mightier people, the Amorites, who shall become known as the Babylonians, whom we now despise, shall overrun our country and these shall be overrun by the Assyrians. Then shall come the Persians, followed by the Greeks, then the Romans and finally, Mongol hordes shall lay waste to the very site upon which we stand. Here where is mighty Sumer, there shall be goat pastures and nomads shall pitch their tents over the buried remains of the monarch's royal castle.

"Our mighty monarch, son of the most high god that he is, is also chief-priest, head medicine-man and our biggest real estate owner, but god has other sons who rule over other slaves, and these shall make war and destroy kingdoms. Led by the gods, these mighty conquerors shall lay waste the works of man's hands and they shall kill and plunder as no common highwayman ever dreams of doing. Free peoples shall be carried away into slavery, brave soldiers captured in war, shall be emasculated, maidens shall be taken into concubinage and the whole earth shall be repeatedly drenched in gore.

"In the Mediterranean a country shall arise that shall be called Greece. There the shaman shall attain to great prominence and his profession shall break into pieces and become several specialties. One group of these shamans shall call themselves leeches and they shall poison the sick. 'All the dregs and scum of the earth and sea' will they pour down the protesting throats of their trusting patients in the name of healing, and they shall grow in numbers and in influence and they shall spread over the earth and enslave the minds of men with their false doctrines as they fill their bodies with the witch-brews.

"At another part of the Mediterranean shall arise another city. It shall be called Rome and it shall attempt to rule the whole world. There an institution shall arise that shall be called The Church and it shall claim to be a god and that it has authority to rule over the earth. The mighty military power of Rome shall wane and become as though it had not been, but the church shall keep alive the ambition of Rome to rule the world. This institution shall break into a number of fragments and its fragments shall spread over the whole earth and teach men fear, such as our Holy Monarch does not dream of teaching the people of Sumer. They shall rule the minds of men and hold them in intellectual slavery. Your alphabet shall be used, not to carry enlightenment to the people, but to confuse them and frighten them that they may be more readily exploited.

"The future owners of the collective wealth of the nations shall form themselves into a Chamber of Commerce and they shall control the legislatures of the nations and shall call themselves the 'better class.' The workers shall be free, by which, it shall be meant that they do not have to be paid for as slaves are paid for. Instead of the workers of that far away time receiving their pay, in keep, they shall receive their keep in pay. The workers shall be brainwashed from infancy with the stew prepared for them by the owners of the earth. They shall be taught that they are free and they shall cherish the illusion all their lives. A prophet shall arise among them who will declare: 'The greatest foe of the liberties of a people is their own illusion of liberty,' but the workers shall scoff at him and give their ears to the Chamber of Commerce.

"Behold! I show you a great mystery. I see a great ocean and across its wide expanse, even on the other side of the world, I see a great continent filled with a great number of people and with hamlets and cities and great factories and the country is called the United States of America. Its land is filled with beautiful edifices, some of them covering more ground than all of Sumer, and these are called schools and colleges. I see little children just out of their hip-pins (the Sumerian term for diapers), trekking their way each morning to school, where they color card boards and sing songs. The teachers in these great educational institutions, as the Americans shall call their intellectual canning factories, are 'guaranteed incapables,' who regard themselves as glorified infant-tenders (the Sumerian phrase for baby-sitter) and the children and youths of this great nation shall not be truly educated, although its people shall be taxed into the poor house to sustain the educational system. Genuine education shall be tabu because the church, the Chamber of Commerce, the American Association of Leeches and the politicians of that time shall join together in a united front to prevent them from being taught anything unless it is first approved by the church, the leeches, the politicians, the exploiters of labor and the generals of the Army.

"The poor, benighted people of this great land, not knowing how Egyptian-like is the intellectual darkness in which they shall be kept, shall boast of their enlightenment, while deluded with the thought that they are free. They shall sing loud hosannas to the goddess of liberty, to whom they shall do lip service, while the chains of their slavery are being more tightly riveted upon them. 'Land of the free and home of the brave,' they shall call their country, even while it is shackled with chains of the strongest steel. They shall be brainwashed instead of educated and their freedom shall go up in smoke."

The eunuch finished his prophesy and was sent back to his duties in the harem. Kneeling, he uttered a prayer to the Sumerian trinity, whom he knew the Sumerians would pass on to the

Babylonians as they went down before a stronger force, even as his own people had been swallowed up by the great maw of war that grows inevitably out of the systems of exploitation that struggle for control of the earth. He knew that the struggles of classes within the state are but miniature forms of the same struggles; that each class demands and strives to achieve for itself privileges and special powers over others.

In the vision he had just seen, the details of which he had communicated to the Chief Scribe of the Royal Library, he had witnessed the rise of the poisoning profession and its achievement of a monopoly of the care of the sick. He had seen its doctrines and its practices fastened upon the people by force of law and the policeman's club and he had witnessed the legislators of the nations bow to the will of the profession of leeches. Musing to himself as he made the bed of the Scribe's favorite concubine: "In the words of a character that shall be created by a man who shall be called the greatest of the English poets: 'What fools these mortals be!'"

We have permitted our imagination to roam backward over the past to the dawn of history in Sumer, a great city that was destroyed by the people who came to be known as the Babylonians. History begins with the written record. There are some differences of opinion about whose written record is oldest, that of Sumer or of Egypt or even of Crete. Egyptian writing is estimated to have blossomed out at about 4,000 B.C., that of Sumer about 3,000 B.C. If we are to accept the Egyptian date, this means that written records are only about six thousand years old. When recorded history began civilization had already reached an advanced stage. This means that our immediate prehistoric ancestors were civilized men and women. In this sense they are not comparable to present-day savages, whom we are fond of regarding as living primitives.

Although we equate civilization with culture, refinement, the arts and sciences, the word literally means city-ization. It is derived from *civitas*—city. In the Neolithic period man lived in towns, which means that he had learned to build houses. Civilization had begun. Civilization is much older than recorded history. Can we reconstruct prehistoric man? I don't think that we need to do so. He was just like you and me. What we do want, however, is an insight into his modes of living and into his modes of caring for the sick. It is to these two subjects that I want to devote some space as an introductory part of this book.

Before going further, let us clear away some smoke and mist, that we may be better able to see our subject. Many historians and anthropologists do not like the classification of man into *prehistoric* and *historic*, but prefer to use the terms *non-literate* and *literate*. As history is but a record of man's past, and could have been made only

after he had become literate, the two classifications mean the same thing, except that the term non-literate is equally as applicable to living primitives of the present as to the prehistoric Sumerians. One historian, trying to justify the new terminology, says that "it is as absurd to assume that the activities of mankind were unimportant and non-historical until a few thousand years ago as it would be to assert that an individual's life was of no significance until the day on which he cast his vote or began to keep a diary."

As true as his statement is, it has no relevancy here. To speak of man before the beginning of recorded history as prehistoric is not to assert that before the beginning of written records, man and his activities were unimportant. We know that prehistoric man developed the beginnings of civilization, that he evolved a number of highly complex languages; that he developed a number of the arts and rudiments of some of the sciences; that he was an inventor and a builder and, finally, that he developed writing—he made history possible. It is precisely because I think that prehistoric man is one with historic man and that what he did and how he did it is of vast importance, that I have attempted the brief inquiry that is summarized in the pages of this book. As prehistory is the father of history, so prehistoric man is the father of historic man. Only the most incorrigible brat denies the importance of his parentage.

By anthropological and archeological research it may be possible to push history a short distance back beyond the origin of written records, but when we have done this, we still have a long period prior to the furthest extent of this quasi-historic period, that even archeology cannot penetrate and in which anthropology flounders like a fish out of water, due primarily to its acceptance of the Darwinian myth. Anthropology refuses to build upon man, but builds upon a hypothetical series of pre-men, the fossils of which it cannot find. With all of the irrationality of a megalomaniac, anthropologists construct all of their interpretations of man's past with the idea of *progress* uppermost in their minds. In this place, however, we are less interested in all of the problems involved in this phase of the subject than we are in the ways of life and the ways of caring for the sick that our ancestors employed.

Human existence antedates by many millennia the advent of medicine and the system of tribal magic out of which medicine eventually evolved. Man is reasonably supposed to have been on earth a long time, some estimate his time here at a million years, although recorded history is but six thousand years in scope. As medicine is less than three thousand years old, man managed to survive, multiply and spread over the face of the earth without the aid of the physician and his bag of tricks. In the time-clock of man's existence, the medical profession has been in existence only a few seconds.

The medical assumption that existence and disease are contemporaneous poses for us the query: By what means did man secure this survival through the ages of his existence during which he was without the benefit of germs, physicians and drugs? In other words, how did our primitive ancestors prevent disease and how did they care for the sick?

It is the answer to this question that I shall attempt to find in the first section of this book. But in our effort to discover the answer we must go back to the origin of that system of primitive magic by which man, for a long period and even yet, to a considerable extent, attempted to control the forces and processes of nature and to appease the anger or incur the favor of the spirits, good and evil. For, no matter how far back into man's past we may be able to push the system of magic, there was a long period before that time during which he existed without its doubtful aid.

It must be admitted at the outset that we possess but a limited amount of data upon which to base an answer and that the little data we do possess has been so warped and twisted by the fanciful interpretations of anthropologists, archeologists and historians that it is often non-recognizable. I believe, however, there are ways into the past that are sufficiently reliable to provide us with a reasonably correct answer to our question. In our attempt to get into man's fabulous past we must avoid the tendency of the modern mind, nowhere more evident than in the works of anthropologists and archeologists, to generalize, often on inadequate data, more often on badly assembled and disjointed data. The matter of method is equally as important to the historian as to the scientist. Only by competent methods employed in obtaining factual data and extreme care in drawing conclusions therefrom can we determine the probability of any happening. As *positivistic* historians our task is to reconstruct, as true as possible, a picture of what actually occurred in the unrecorded past. In doing this, we are not to take an evolutionary position and endeavor to determine how a thing came to be, but to lay out our picture on the broad basis of the human constitutional canvas. We are going to study man, not theories about man; not theories about how man came into being and evolved. Speculations about man's evolution may always be indulged when there is a dearth of facts and a lack of serious purpose in what we are doing. Scientists and historians, having elected to cast off Homer, Hesiod and Moses, for the low-browed, life-long dyspeptic, Darwin, cannot understand man's past.

Several lines of investigation are open to us, each of which must be considered on a broad basis and with diligent care in our efforts to separate the real from the fanciful. Perhaps etymology can supply us with clues to the life of our prehistoric ancestors, for it was they who developed language, but there is sufficient uncertainty about

the original meanings of many words and so much disagreement among etymologists that this constitutes a very shaky reed upon which to learn. I shall attempt no consideration of such evidence at this time, although no avenue into the past should be denied us, but all of them should be carefully explored. Without apologies for my departures from the usual methods of anthropologists, I shall briefly explore only the following areas of knowledge:

1. We shall consider man as a living creature with definite needs, instincts, capabilities and powers and as having met the problems of existence in manners that are faithful reflections of his inherent constitution. This means should take us back far beyond the immediate prehistoric period.

Both from a universal historical and from a biological point of view, the outstanding features of man's life are his instincts, tendencies and inclinations; his efforts to survive and his urge to perpetuate his kind. In this sense, if in no other, he is one with the animals and we are justified in studying him as such. Such a study, if carefully made, should provide us with considerable insight into man's way of life in the prehistoric past.

2. The second way to get into prehistory is to explore the equipment man brought along with him from his prehistoric period. The early cultures that sprang up along the rivers of Egypt and Mesopotamia inherited from the people who settled there in what may be termed the "stone age," many of their institutions and ideas, so that the early history of these peoples is the history of primitive peoples. I shall, in this connection, consider only the equipment that relates directly to our subject.

3. We shall consider the myths and traditions of our ancestors to find, as far as possible, what truths may be contained in these. Important as is this field of our study, I shall devote little space to it.

When Heinrich Schliemann uncovered the ruins of ancient Troy he opened up a whole new field of study—not in the ruins, but in what had previously been looked upon as baseless myths of ancient peoples. Homer's story of Troy was no longer a baseless fiction and the heroes and heroines of that struggle became real men and women. Troy was no longer an imaginary city where Achaeans fought an imaginary war, but became an historic fact and the war a grim struggle between closely related peoples. Can we doubt today that Agamemnon and Priam, Paris and Helen, Achilles and Ulysses were real people?

Subsequent diggings in Greece, Egypt, the Near East and elsewhere have shown that the ancient books of the Hebrews, Egyptians, Persians, Indians and other peoples, instead of being filled with stories that were drawn from thin air, contained garbled accounts of men, cities and struggles that were realities. (These accounts, as we have them, are probably as accurate as what we get of current events

in our daily papers.) Even the Labyrinth of Greek mythology was unearthed in the ruins of Knossus on the Isle of Crete.

The study of man's traditions and myths as well as the study of his institutions and customs at the dawn of history, provide us with an insight into his prehistory, the myths and traditions taking us far back into the past. The myths and traditions of a people contain more or less confused accounts of their past; they are racial memories. They are like dreams, confused by a lot of irrelevant materials, but possessing a genuine content of past happenings. Intelligent study of them, involving a critical analysis of their elements and a careful separation of the probable from the improbable, even the possible from the impossible, can be made to yield much information of the past.

Homer, like the Bible, is an inexhaustible storehouse of anthropological lore. Among the oldest of Western writings and the most complete of these, his works give us glimpses of a world we have almost forgotten. Homer deals with almost every aspect of Achaean life and displays an intimate knowledge of the ways and philosophies of his predecessors. A citizen of the Bronze Age, he has taken us back into the past as no other ancient writer has done. I see nothing marvelous, however, in the fact that he spoke Greek and cannot become ecstatic, as do some of his eulogists, over the fact that he employed Greek terms in detailing parts of the body.

Excavations in Greece, Troy, Babylon, Egypt and elsewhere and the deciphering of the inscriptions and records that have been left by the ravages of time and of man, have given us a new conception of pre-Homeric peoples. In general, they were very modern, with all the virtues and vices we so love and, if not our superiors in intellect, at least our equals. They lacked the accumulated knowledge we possess, but were otherwise as human as are we. Indeed, it is not wrong to say we have received all of our virtues and many of our vices from them and still adhere to a great body of superstitions that they bequeathed to us. The Hebrew Scriptures, though not as old as Homer, are Eastern. They are packed with a wealth of anthropological lore, reaching back, even into the stone age. There are other ancient writings, such as those of the Zen religion of India, that also reach back into the dim prehistoric era.

4. Anthropology has studied the ways of living primitives and there can be no doubt that these studies have thrown some light on our past. Here, also, I shall devote but small space to those matters that pertain to our immediate subject.

What are we to regard as primitive man? Are we to think of primitive man as man in the earliest period of human existence or are we to think of tribes now living in the modern world, that have made but scanty cultural advancement, as primitive? Are we to think of man in his original habitat or of modern uncultured tribes that are widely

dispersed over the earth, as primitive? If man was originally a tropical or sub-tropical being, can we logically think of the Eskimo and his frigid existence as primitive. If man is, in his anatomical and physiological features, a frugivore, can we logically think of his carnivorous practices as primitive?

Man seems to have originated in the tropics or sub-tropics and, if this is true, it cannot be logically held that the means and measures he has adopted to enable him to survive in non-tropical regions of the earth, formed part of his original or pristine ways of life. We may logically assume that he started life from scratch, that he acquired his culture by a slow process, so that the savage is culturally closer to primitive man than is civilized man, but we certainly cannot logically include all of the practices found among savages, in all parts of the earth, among the primitive practices of our ancestors.

The life of the modern savage is ruled to a remarkable extent by magic and superstition. We are certainly not wrong in assuming that man started his existence on this earth without magic or superstition. However far back into man's past it may be possible to place the origin of a particular superstition or to push his system of magic, it certainly was not primitive. He acquired his superstitions and his magical practices, as he did the other elements of his culture, slowly, piece by piece, and not all at once. Although it is customary to refer to his system of magic as "primitive magic," this phrase is misleading. Magic could have had no place in the life of earliest man.

5. A study of the practices and traditions of man at the dawn of history must provide much insight into the ways of man in at least the immediate prehistoric period. This is really a part of our second proposition, but for our purposes, this field of inquiry may be most rewarding, hence I have separated it from the rest.

At the dawn of history prehistoric man and historic man were one and the same. Instead of wiping the slate clean and beginning all over again with a completely new set of institutions, a completely new set of ideas and practices, and a completely new mode of life, historic man merely continued on with the institutions, ideas, practices and ways of life that prehistoric man had built up. The invention of writing did not make any immediate radical change in his way of life. That what he received from prehistory was a crazy-quilt of good, bad and indifferent, of wise and foolish, of useful and non-useful is evident to any reader of early history or, for that matter, of the history of the present. Thus it is that early history is late prehistory. But one problem confronts us: namely, how far back into prehistory are we justified in projecting what we find at the dawn of history? Myth and tradition may assist us some in this, but not greatly.

The diffusion of culture from southwestern Asia to and through other parts of the world was inevitably accompanied by a lag,

so that, it is possible to study the immediate beginning of history in several places, but this would take us too far into such matters for the size of this book. Archeologists and historians have provided us with a great fund of evidence of the cultural interchanges that were in constant procession between the various Middle Eastern and African cultures in the early period of history. A similar interchange between these cultures and those of Eastern and Southern Europe also occurred. Greece becomes a specially fruitful field in which to search for data needed in our inquiry.

THE CRYSTAL FOUNTAIN

Chapter 2

The highest living structure of which we have any knowledge is the organic structure of man. The human organism, segregated and individualized, is possessed of certain powers and capacities that are lacking in any of the organic forms beneath man. But, considering the materials and structures of man and animal, they are the same. They are each composed of the same chemical elements, of the same types of cells and tissues and of similar or identical organs. Their organs subserve similar or identical functions. Blood flows through the veins of the ape, as it does through those of man, and for the same purpose. Air is breathed by the lungs of the horse, as by those of man, and for the same purpose. Water is drunk by the cow, as by man, and for the same purpose. We eat and the animal world eats with us. We are active and so is the animal world. We sleep and the animal kingdom sleeps also. Man is part of nature. He is not above nature, is not separate from it, is no violation of it—he is not supernatural nor extra-natural.

We may portray man in relation to his whole social setting; we may deal with him historically or contemporaneously, or we may study him as a specimen of animal life. Without wishing in any way to deprecate the value of studying him historically, socially and as a contemporary being, I propose in this chapter to deal with him as an animal, not with any intent to degrade him, but with the aim of discovering his primitive needs and behavior patterns, to the end that we may gain a more clear insight into the ways of life that may logically be expected to have been pursued by our primitive ancestors. Basic to his primitive way of life was his satisfaction (adequate satisfaction) of his animal needs. Basic to his effort to supply his needs must have been those ways of existence that conform to his constitutionally determined actions. If he could not fly as a bird, nor live under water like a fish, we must logically expect that he lived as a mammal and not merely as any mammal, but as a primate or, perhaps, more properly, as *the primate*.

Biologically, man is an animal with the same tissues and organs as those possessed by the same class of animals to which he belongs. Like them, he has bones, muscles, nerves, glands, a digestive system and other organs of nutrition, a heart and blood vessels, lungs, liver, kidneys and other organs; like them, he becomes hungry and thirsty, he grows tired and requires sleep; he is, like them, subject to heat and cold; like them, he has his origin, his gradual development, his maturity, his gradual decline and, finally, his death. It is as a living

organism, having certain organic needs and certain organically determined modes of behavior that we must study him.

Without reducing him to the status of a mere animal, we may think of him as an organic complex, the elephant as another such complex, the worm as another and so on, and we may consider, not only the needs that are common to all of the various animate complexes we find in nature, but the specific needs of each complex, according to its own constitution. In this study we are interested primarily in man and can refer to the other animals only by way of illustration of our subject. It is important to treat the life of early man in the light of his known physiologic, biologic and sociologic character and in reference to the basic needs of the human organism as such. Archeologists, anthropologists, sociologists and historians have rarely, and then only superficially, considered man as a biologic and physiologic entity. They have been more interested in his cultural developments than in his organismal character and needs. They have considered his behavior-patterns when they have condescended to consider these at all, not in relation to his primary needs, but in relation to his social environment.

Modern man's superiority over his primitive ancestors, like the superiority of civilized over savage man, rests in his social achievements and not in his biological equipment. Hence, man's primary needs are not the results of his social evolution, and do not grow out of the cultural stages in which he may be found at various periods of prehistory and history and in the various regions of the earth, but out of his primitive constitution. Man has certain needs and desires which are basic to his very existence and are not merely the outgrowths of whatever condition he may find himself in at any stage of culture. When we neglect to intimately integrate man's cultures with his animal needs and drives, we cut ourselves off from the possibility of understanding his behavior. It is for this reason that any effort to create a synthesis of the past life of man and of his multiform activities, that neglects the biologic and physiologic factors, and thinks wholly in terms of psychology, religion and culture, is inadequately based.

Fortunately we are not reduced to the necessity of formulating hypotheses in our attempt to understand the activities of prehistoric man, but can rely upon specific and concrete activities and needs, for man is a known and not an unknown entity. Regardless of the shifting views and systems and the coming and going of hypotheses, the constitutional needs of man, as an animal, are permanent. They reach as far backward into prehistory as they reach forward into the future. They were as real and as urgent in the life of the earliest man as they are in the lives of our contemporaries. The demonstrated facts of biology, physiology and psychology become premises and postulates

upon which we may erect a logical structure which becomes a frame of reference for our study of the life of prehistoric man. Basically, human nature must continue much as it has always been.

We are as justified in beginning our study of prehistoric life with the fundamental facts of man's physiologic and biologic life as is the biologist in commencing his studies of life with the elemental phenomena of living organisms. Indeed our approach to our respective subjects is identical, except that we confine our studies to one organism, whereas the biologist is interested in life as a whole. By this means we arrive at a basic principle of human life which is quite as immutable as the principles the biologist has found to relate to unicellular life. Like all central truths, its ramifications are infinite—as infinite as the appearance of variety, and as pervading as the sense of oneness in the universe.

The deterministic tendencies of constitution are as real in man as in animals below him in the scale of being, although it may be readily admitted that caprice and indeterminacy play larger roles in the domain of human activity than in those of the lower orders. It is upon the basis of the inner compulsions of the underlying constitution and its basic needs that human life moves in patterns and configurations. A recognition of this fact makes it possible for us to reconstruct the life-pattern, as distinguished from his cultural patterns, of primitive man. Life must be explained primarily from itself, not by bringing in such external and certainly secondary factors as environment and sociology, although we cannot deny the importance of these factors. Organic form, organic needs and organic forces are the central and primary factors for the student of human biology to consider. We must insist upon the validity of this emphasis upon human constitution as the central feature or pivot around which human life must always revolve.

This emphasis upon organic needs as the centrality of prehistoric man's activities, which needs exist independently of the various cultural stages in which he may have lived, places our studies of the life of prehistoric man in the realm of causal-functional reality and abstracts it from the cultural environment with which the anthropologist has surrounded ancient man, at the same time removing it from the enveloping cloud-mist of the tentative hypotheses with which prehistoric man has been obscured. An understanding of the uniformity of relationship between the complex nature of prehistoric man and the equally complex nature of modern civilized man will enable us to understand the uniform basic needs of the two. The identity of their physiologic and biologic needs being recognized, a logical coalescence of the essential factors of their respective needs of life necessarily follows.

The modes of living are essential parts of human activity, regardless of what stage of cultural evolution we view, and are of

much more importance to human existence than the many phases of culture which the historian, archeologist and anthropologist so assiduously studies. The physiologic, biologic and sociologic factors influence one another so strongly that they may be said to be interdependent and to be also functionally related, but this interdependence must not be permitted to obscure the primacy of the biologic and physiologic factors. When sociologic factors fail to square with the biologic and physiologic requirements of man, they prove to be detrimental and cannot be accepted as normal parts of man's way of life, neither now nor in the past.

There is a basic organic continuity of man from generation to generation with a concomitant continuity of his organic requirements. In his elemental needs, he does not differ today from his remote ancestors. We are not as unlike our forefathers as we like to think. A knowledge of these elemental needs constitutes a reliable guide to an understanding of the ways of life of primitive man. It may not supply us with all of the details under all the circumstances of life in which he may have found himself, but it will certainly provide us with the broad outlines that may be filled in by greater study of man under all the circumstances under which he lives and by a careful weeding out of those forms of conduct that are based on magic or that have been imposed upon him by anti-natural forces. This work of filling in the details belongs properly to the biologist, specifically to the ecologist, and he could be trusted with it were he not blinded by doctrines of progress, expediency, medicine and capitalism.

A full understanding of man as he is today, supplies a key to understanding man as he was in the past. A full understanding of his basic needs today provides a knowledge of his basic needs in the past. As a biologic and physiologic entity, his needs then were the same as his needs today. As we ascend the hierarchic scale from plane to plane of his cultural life, the basic needs of the organism, man, remain the same, so that our "laws" remain no less binding. The causal-functional relationship of the organism, man, to his behavior is not subject to dispute; hence, despite the adaptive modifications of his behavior patterns to the different culture-patterns under which he is found, his behavior patterns remain basically the same, as his organic character and organic needs remain the same. The heterogeneous elements that enter into the formation of a culture-pattern do not so modify the constitution of the organism, man, that his basic needs are also altered in any radical manner.

The causally or functionally related forms of behavior that belong to both prehistoric and historic man are grounded in the fundamental identity of the two organic patterns. This identity of organic pattern and corresponding identity of organic needs constitutes a central principle which permeates the way of life of man in all ages

of his existence. If we grant that man is biologically controlled, we cannot escape the conclusion that, basically, society is also biologically controlled. The normative conduct of man in history may be concealed under a host of cultural compulsions, as he has sought to integrate himself with the variables in the cultural patterns that have been evolved, but from the biological and physiological point of view, early man is as contemporary as modern man.

Those anthropologists who say that man is socially and not biologically controlled and that his social life is an evolution out of the "primate horde," miss the whole essence of biological control. When, at the same time, they assert that man's acting "is not an expression of inherent nature" but that it is an expression of social controls "rather than a direct expression of man's primate nature," they do not have man, but anthropoid apes in mind.

In general, what is meant by social control are those repressions, suppressions, perversions and coercions of custom, the state and religion with their force, fright, and methods of conditioning. These can never usurp the place of biological control, but by their interferences and their persistent driving of man in anti-natural directions, they can shatter the integrity of his organism, destroy the vigor of his functions, produce neuroses and psychoses, and pile up mountains of suffering and greatly shorten the human life-span. Having submitted to these for so long, man has forgotten his pristine vigor, his primal sanities, his primeval freedom and his primitive strength.

Although the foregoing may be said to be a mere demonstration of the obvious, it must be replied that this is an achievement that is much more useful than, at first thought, it may appear. For, if we know the needs of man, we may get a true graphic picture of what actually happened in the past. If we consider the needs of life, as they are seen in both man and animals, it is an easy matter to know that prehistoric man ate food, drank water, was physically active, secured rest and sleep, sought warmth and protection from the inclemencies of the weather, was injured and had his wounds to heal, became sick and recovered his health. The basic elements of bodily care (hygiene) were necessary to him as to us. Indeed, man's basic needs were and are coeval and coextensive with his existence.

Nature's most valuable provisions for life are the most common, though all too often least highly prized. Air is more important than gold; water more valuable than diamonds; the dirty, despised soil of our fields and forests is worth more to man than all the produce of the mines of the world. The luscious fruits that are so plentiful are of greater value than the rarest animal tidbits; water has virtues far surpassing those of the choicest wines. Sunshine far surpasses in value all the drugs of the apothecaries; while nothing, not

even water, is as valuable to living existence as air. At all times within our reach, we are, indeed, bathed in it from birth to death, for in it we live and move and have our being. It is poured upon us and made to flow all around us and into us and through us. Everything else we can dispense with for minutes, for hours, even for days and weeks, but this we must have every moment or we die.

It may be of interest to the medical profession to overlook the fact that many of the factors of living upon which man depends for his continued existence are not used by mankind alone, but are integral parts of the life of the animal and plant world, yet this is a fact of the widest significance and of the utmost importance. It does not prove, however, as has been suggested, that man borrowed from the instinctive inclinations and practices of animal life, but that man has, in common with the lower animals, certain basic necessities and urges that render animate existence possible.

Without reference to its original home, a living organism has various needs, such as food, air, water, warmth, sunshine, shelter, etc. As one of these needs arises, the organism seeks its satisfaction; if it is thirsty, indicating a need for water, it drinks; if it is hungry, indicating a need for food, it seeks for and takes food; if it is tired, indicating a need for rest, it rests; if it is sleepy, indicating a need for sleep, it sleeps; if it is cold, it seeks warmth; if it is hot, it seeks the cool of the shade or a place where cool breezes blow or it seeks a damp place in which to lie or goes into the water. The dominance of any need favors the performance of certain acts rather than others. We may say, then, that the living organism acts to satisfy its needs by seeking and appropriating those substances and influences that sustain its structures and functions. Even in fleeing its enemies, it does not merely run away, but also tries to find a place of safety.

If we think of the needs of life, as these are seen in both man and animals, it will be an easy matter to know that prehistoric man ate food, drank water, was physically active, secured rest and sleep, sought warmth and protection from the inclemencies of the weather, was injured and had his wounds to heal, became sick and recovered health. The basic elements of his living were the same as the basic elements of our own way of life. His hygiene, this is to say, his care of his body and his ways of meeting its normal needs, were the same as the basic elements of our hygiene.

Knowing that in these particulars, what is true of the lower animals is true, also, of man, we are provided with a basis, in the needs of man and in his ways of satisfying these needs, for understanding the life of our primitive ancestors. We are safe in assuming that before the domestication of man by an exploiting class, if he was tired, he rested; if he was sleepy, he slept; if he was thirsty, he drank (water); if he was hungry, he ate (unprocessed food); if he was cold, he sought warmth; if

he was hot, he sought the cool shade of the trees. When he was made a chattel slave, a serf, a wage slave, he was forced, like the domesticated horse, to continue working after he became tired, until his owner (the boss) gave him permission to rest. He worked in the heat, when all the rest of the animal kingdom was resting in the shade; he worked in the cold, when he needed to be sheltered from the weather; he ate at times which his owner set aside for this function. His life was no longer his own and he was forced into a way of life that was wholly at variance with the normal ways of existence.

It is one of my purposes, in writing this book, to show that man has always relied upon supplying the basic needs of existence as the very requisite of continued life and that, at no time in his past history has he ever entirely neglected them, nor, indeed, could he have done so and survived. In prehistory he relied upon these exclusively for long ages and brought them with him into history. I shall affirm the all-sufficiency of these needs, both in health and in sickness, and shall demonstrate the futility and harmfulness of trying to substitute art for the employment of the grand provisions nature has made for the support of life and the preservation and restoration of health. This is to say, I shall show that healing is a biological process, not an art, and that its success depends upon the normal things of existence and not upon adventitious and harmful substances that are often introduced into the bodies of the sick.

We may think that we have now progressed so far that we have better means of caring for the sick than had our primitive ancestors. The resolute optimism with which we accept every innovation, every complication of life, every "discovery," appliance and contrivance that issues from the unscrupulous minds of chemists and engineers, as necessarily constituting an improvement, a "progress," an advance in the assumed "upward march" of mankind, while the masses of the race groan under an exploitation more cruel than has ever been seen in the world before, with the oppressors of the people growing everyday more vulgar, more luxurious, more dishonest, more pleasure-loving, and more convinced that they are the chosen of the gods, attests to the depth of our degeneration. The ancient writer testified that "God hath made man upright (whole, entire, self-sufficient), but he hath sought out many inventions." His remedial inventions are among his most deadly.

LIGHT FROM EDEN

Chapter 3

Self-preservation is said to be "nature's first law." Certainly it is only those creatures that have mastered the arts of preservation who have survived. All else have perished. The obvious necessity of all creatures of taking care of themselves was as urgent in the case of our primitive ancestors as of the animals of the fields and forests. Man, like all animals, must act in his own best interests or be exterminated in the long run. But these primitive forebears of modern man had no store of accumulated knowledge and experience to guide them in their ways of life; they lacked all results of carefully controlled and painstaking experience. They were forced to rely, as do the animals below them, upon wisdom of another and, often, more reliable sort. Knowledge of how to live is a constituent element in human nature as it is in the lower animals.

Honest instinct, it has been said, is a more reliable guide than the philosophers and scientists. All living beings possess a native wisdom driving them outside circumstances which have no pertinence to their welfare and towards situations which would benefit them and away from those which would harm them. For the most part, each selects what will nourish it, rejects that which endangers it and ignores that which is irrelevant to the growth and continuance of itself and its kind. Even the lowly ameba moves toward and engulfs a particle of food and moves away from a poison. There is a cell-wisdom in the complex organism not unlike that observed in the ameba. Deeply rooted within them and quite below the level of consciousness, the activities and modes of living of all creatures are directed by this intrinsic wisdom which is untaught by either parents or experiences, but which is exhibited in almost every act.

When a newly-hatched chick, without being taught the value of corn or the danger of foxes, eats the one and runs from the other; when a group of inexperienced animals reject that which would prove harmful and eschew the irrelevant, they are exercising an intrinsic wisdom of life that far transcends our acquired knowledge. When it is said that the cow is tempted by grass and repelled by flesh and that she pays no attention to the sun, while the weed isolates oxygen and minerals and ignores almost everything else but the sun, we have stated the general fact that organisms instinctively behave in the manner for which they are constituted. This primal wisdom is not purely organismic, but exists in every organ and in every cell. It is a genetic quality that is passed along from generation to generation irrespective of

experience. It relates all parts of the body and causes them to function for the whole.

Man is logically assumed to have started from scratch, with no store of accumulated knowledge, no books and scientists to guide him and no previous experience to fall back upon. Heretical as the declaration may appear, it is safe to assert, on the basis of our knowledge of life, that he was guided by his own intrinsic drives, which were adequate to all of his needs. When anthropologists assert that every individual is born with a unique biological endowment of potentialities, which are like those of other individuals, but not exactly like them, they do not confine this statement to modern man. All men, everywhere and in all ages, have been born with biologic endowments requisite to living as men and women. We have been too much inclined to mistake the increasing complexity of our social heritage for an increasing complexity of our biologic heritage. That we custom-make our behavior-patterns to conform with the pre-arranged patterns of the society into which we are born does not alter our basic biologic needs and capacities.

Man, like the lower animals, functioned and functions by virtue of a wisdom incarnated in his tissues. Just as the bee constructs a comb without having studied engineering, its glands secrete honey without a knowledge of chemistry; just as the mammary glands of the cow synthesize milk from elements of the blood without a knowledge of chemistry, and the human stomach digests food and the human liver secretes bile without a knowledge of physiology, so, incarnated in the very tissues of primitive man was the knowledge needed to live. Formerly, more so than now, man relied upon the guidance of inherent sanities that are now buried as vestiges within us.

The cushioned and protected embryo has no chance to exercise its organs of taste and smell, does not listen, sneeze or suck. In spite of this, the infant begins and must begin almost at once to use these organs with surety and dispatch. It blinks its eyes without prior practice and does this perfectly well in "reaction" to something approaching close. This would seem to indicate that a tendency to blink the eye lay dormant within the embryo, poised and ready, awaiting merely an appropriate occasion to move the eyelid. Certainly the capacity to behave in this manner is built into the eyelid during its embryonic evolution and it is ready for action as soon as occasion arises. We do not have to assume that tendencies to blink lay dormant in the fertilized ovum, merely that the structural potentials requisite to blinking existed there.

The newborn baby whimpers after its mother's breast and soon learns to find it. It takes the nipple in its mouth without previous training and begins at once the sucking movements necessary to draw the milk from the breast. This is but one of the many evidences that the

living creature is fully endowed in the germ to carry on the functions of living without benefit of pedagogic warrants. I believe that we are justified in saying that an integrated organism is the incarnated expression of an ethic that is never in conflict with the highest interests of the individual. What Cannon designates the "wisdom of the body," an ageless and illimitable wise instinct, gives rise to biologic and physiologic behavior-patterns that are basically sound. In short, the living organism obeys, fundamentally, no laws other than its own.

No matter how civilized man becomes, he never quite loses the instinctive action-patterns of his primitive ancestors. He may cultivate to a high degree the action-patterns required of him in a given culture, but underneath, ready to assert themselves at a moment's notice, lie dormant the instinctive action-patterns of un-cultured man. It is primarily due to these inner compulsions that underlie all human action and that have not been well suppressed by civilization, that all human life moves in patterns of configuration.

We do not need to assume infallibility for the innate wisdom of the body in order to recognize its superiority over the blundering of experimental science and our clumsy efforts to interpret our varied experiences. We may recognize the general adequacy of instinct without discarding either our experience or our science. Our mistake has been that of discarding instinct and relying almost wholly upon experiences (that point in all directions at one and the same time) and science—a science that is largely a collection of "probables" and "most probables." It is important that we re-learn that the inclinations and antipathies of instinct are the leading strings by which nature directs man and beast on the road to happiness and health.

All the warnings of instinct are entirely innate and need not the cultivation of experience. This is to say that prehistoric man functioned by dint of a wisdom incarnated in his tissues, a wisdom sufficient to maintain the homeostatic composites essential to sustain the viabilities essential to existence. This simply means that, like the animals about him, basic man was already in possession of all the answers to all the questions pertinent to prosperous existence, so that he had no need to halt his functions and take a vacation from his business of living, while attending an "institution of learning" for instructions in this basic art; nor did he require to convert himself into a primer on biology to the end that he might learn to live.

We often refer scornfully to instinct and think of it as fit only for animals, but it is a primal sanity that so far transcends the intellect that many have thought it warranted the assumption that instincts are identifiable with omniscience. If the lower orders, even the protozoa, are endowed in the germ with an intrinsic knowledge that does not depend upon a formidable brain mass for teaching them how to live (note the untutored bee building a comb), there is certainly nothing far-

fetches in the assumption that primeval man, before he launched himself on the course of seeking "knowledge of good and evil," was guided primarily by his innate knowledge and not, as now, by the fool's program of "trial and error." The tools of science are cumbersome, slow, uncertain and, more often than otherwise, misleading. Derogate instinct as a low type of knowledge as we will, it is an obvious fact that our cultural insights and technical skills are primarily derived from instinctive activities and phenomena.

The fact of man's survival and increase, coupled with his spread over the whole earth during the long period of prehistory, his survival under a wide variety of circumstances, many of them definitely opposed to human life, and all this without the doubtful aid of priests, physicians, psychiatrists, politicians and kings, is proof positive of the dependability of the primal sanities of *homo naturalis*, and it must be emphasized that these primal sanities are by no means extinct. Man continues to function basically as a whole and as an animal with certain definite needs to which he is related by means of body wisdoms of which he can never be wholly divested and remain a living being. To assume that man, in his primitive state, was not endowed, as are all lower animals, with the primary instincts essential to existence and to assume that he did not employ these as essentially adequate guides in his ways of life, is to assume that he was forced to stumble along by trial and error (the method of *science*) and learn, even the most essential ways of life, the hard way: *experimentally*. The animal may be guided by instinct in its choice of food and may instinctively reject substances that are injurious; but man, devoid of such protective instincts, would learn of the hurtful character of a poisonous plant, only by eating it and suffering.

Man must have possessed, in common with the animal kingdom, the primary instinct which causes one sex to turn to another, else would we have become extinct as a result of failure to reproduce. Probably, also, he was possessed of the primary instinct, still seen to operate in all sound people, that makes them seek their kind. The hotchpotch of races and types that we see today among civilized peoples could not have been produced without first breaking down this biological safeguard of genetic integrity.

However slow and painful may have been his progress in the arts of civilization and in his acquisition of science, starting, as he did, in all these, from scratch, he has attained his present triumphs without any fundamental altering of himself. If modern man retains few, if any, of his primal instincts in strength and purity, it were more wise to seek for the causes of the decline of his pristine biological safeguards than to deny their very existence. If he is controlled today more by conditioned reflexes than by his primal instincts, if he is adapted to an artificial environment, rather than to his primitive surroundings, if he

has cultivated many ways of life that are hurtful and if, in this cultivation, he has persisted in rejecting the initial warnings of his instincts, he has not been improved by his departure from the genuinely normal ways of living, but, rather, is forced to eke out a miserable existence filled with discomforts and pains galore.

To instinct the term *subjective knowledge* has been applied to differentiate it from acquired knowledge, which has been called *objective knowledge*. Somebody has described objective knowledge as synonymous with subjective ignorance, which means, as objective knowledge increases and we rely more and more on this, our primordial sanities and composites escape us, so that there is a shift of controls of the body-total, as a balanced biologic unit, to the brain, which, so it is said, is the least competent of the somatic areas to sustain such controls. In this age of refinement and anti-naturalism, the guides of instinct are possessed, even though greatly weakened, by all.

As man progressed in the arts of civilization and grew away from the instincts, passions and propensities that characterize the lower forms of life and the lower stages of human culture, and began to develop what he regards as a higher conception of life and became more spiritual, he permitted himself to be lured away from the grand system of Hygiene that is established in nature. Although I do not intend to go into the subject at this place, I think the evidence shows that what we call civilization is the product of man's degeneration, every advance of which has added to his degeneration. A whole man, possessed of full vigor and in possession of all his innate powers, would disdain the "aids" of our artificial life.

What we call instinct in animals appears to be a purely sensual faculty by which they distinguish between the agreeable and disagreeable, the wholesome and the unwholesome, the useful and the non-useful, the safe and the unsafe, the good and the bad—that which conduces to life and that which conduces to death. Animals, like man, contact the outside world through their senses; sensual perception alone is provided them. They have no knowledge of chemistry and toxicology, but they instinctively avoid poisonous substances; they know nothing of death, but they avoid the onrushing car. If primitive man's stomach knew how to digest food and did not have to rely upon a textbook of physiology, his sense of taste and smell were equally competent to select his food without reliance upon such textbooks. He knew, instinctively, when to eat and when to cease eating as certainly as his liver knew how to secrete bile. Instead of living being an art that the human animal requires to learn, it is an instinctive way of life to which he must return.

He has abandoned the wisdom with which his tissues were incarnated and has learned increasingly to rely upon the experts and their experimental findings, and these have deceived him.

Nearly two thousand years ago Lucretius wrote:

This too thou well mayst note; that liquid draughts
of honey and of milk stray o'er the tongue
With pleasing taste, whereas, contrariwise,
The bitter gall of wormwood and the juice
Of wild centaury twist the mouth awry
With noisome savor . . .

The wholesome things of earth titillate the senses and hurt them not, while that which is harsh and hurtful does not soothe and please the senses of man. As Lucretius said: "Lees of wine and pungent taste of endive, like the burning fires and chilling frost stab our senses, thus providing proof of their unfitness to enter the sacred realms of life." When to the nose and ear, the eyes and taste of mouth a thing proves loathsome, we are foolish to ignore the protest of these primal senses and take such substances into our bodies.

We observe living organisms cast out onto the ground all things alien to their nature, both of seen and unseen substances, often by processes that are painful and exhausting. Whatever substance can never become a normal part of its fluids and tissues must be cast out. Accordingly we discover that there is in every creature, man included, a normal disrelish and disgust for substances that cannot be assimilated, when these are brought into contact with the senses of taste and smell. When, by some artful ruse, they are permitted to pass the body's senses and get within, they will occasion pain in proportion to their unfitness for assimilation.

The fact that we can cultivate a relish for the most nauseous, disgusting and horrible substances, that are as disagreeable as they are unfit for entrance into the body, indicates the degree to which our senses are susceptible of perversion. That we may be induced to disregard the protests of instinct and take such substances into our body on the supposition that they will restore health, reveals the extent to which we are subject to psychological pressures and to delusions of all kinds. So strong is the protest of man's normal instincts against the introduction of obnoxious substances into the body (witness the struggle of the baby to avoid taking a drug into its mouth: see the nurse hold its nose to force it to open its mouth to breathe so that she can forcibly introduce the drug) that some powerful psychological influence had to be provided to beat down this instinctive rejection of poisons. This was originally provided, as we shall later see, by the shaman and his magic.

But other methods of slipping poisons by the faithful sentinels that guard the entrances to the citadel of life, were not long in finding their way into use—that of disguising them: "when disguised by the sweetness of honey, poisons do into the body steal," they pass nature's first line of defense. If the shaman did not resort to this deception, his

successor, the leech, did. They soon learned to hide their bitter, noisome drugs in the honey's sweet that the faithful sentinels that guard the entrance to the vital domain may be deceived and let them pass.

Lucretius reveals to us that the practice was in vogue in his day. He says in his work, *On the Nature of Things*:

For even as healers, when they would essay
To give to ailing children bitter draughts
Of noisome wormwood, first will overlay
The cup's rim round with the sweet golden dew
Of honey, that thereby the trustful age
Of childish innocence may be beguiled
To ope the portal of its lips, and all
Unwitting swallow down the nauseous draught
Of wormwood, and thus deceived . . .

That Lucretius, in spite of his skepticism, (he seems to have been confined in his skepticism to the gods and goddesses of antiquity), was not aware of the evils that flow from such deception of the normal instincts of life, is revealed by the rest of his statement:

. . . though not betrayed,
But rather by such means may be restored
And once again made strong . . .

Of all the classes of substances that occasion disease in the human system, those substances that are commonly classed as medicines are by far the most deleterious. That they are absolutely indigestible and unassimilable and are non-usable, and therefore poisonous, is not to be denied. Every sensation and every fiber of the healthy human system loathes and abominates drugs, as these occasion irritation and destruction of living structure. Perhaps no other thing has cost mankind more pain, misery and real suffering than the idea that he *should poison himself because he is sick*. Even the most perverted sense of taste utterly abhors drug medicines, a fact that should reveal their entire unfitness for entrance into the body. Even those who have so far perverted their senses that they are able to relish half-putrid flesh, hot, pungent spices, drink alcoholic beverages, chew or smoke tobacco, take coffee and tea, fail to find the taste of drugs pleasant.

To the normal senses of taste and smell the odor and flavor of all poisons are disgusting and painful. The pain and disgust occasioned by the taste and smell of poisons are warning signals that should cause us to refrain from taking them into our body. It is only under the sway of an anti-natural system of medicine that man consents to disregard the warning voice of his instincts and takes these foes of life into his body. Travelers tell us that savages invariably spit out the first drink of anything intoxicating, when this is given them. Such substances are also obnoxious to the sense of taste of civilized man. But if we continue to take them in spite of the protest of instinct, the intoxication

soon overcomes the instinct, so that all savages, after a time of association with civilized man, learn to drink and to take other of his popular poisons.

Under the sway of the doctrine of total depravity we have been taught to distrust our normal instincts and even to run counter to them. "Whatever is natural is wrong," was the shibboleth of the medieval bigots, who, as Herbert Spencer expresses it, "inculcated the belief in a universe so diabolically arranged that all its pleasures are injurious and all its salutary things are disagreeable." In defense of this creed, the anti-naturalist says: "Has not the seductive taste of intoxicating beverages caused horrid evils? And, is it not equally certain that bitter medicine and hard labor are the sources of health and wealth. Should we not suppress the promptings of our unregenerate instincts?"

How false this creed is may be seen from the facts that intoxicating beverages have no seductive taste, that bitter *medicines* provide no health and hard work is seen only among the poverty stricken. In reply to his stupidity of the anti-naturalists, Dr. Oswald says: "our natural instincts not only never encourage, but strenuously resist the incipience of every stimulant-vice. An unseduced child shrinks with horror from the taste of alcoholic beverages and the fumes of burning opium. The first cigar demonstrates the virulence of nicotine by vertigo and sick headaches. Nausea accords her protest in the most unspeakable terms, and only the repeated and continued disregard of that protest at last begets the abnormal craving of that poison thirst which pious blasphemers ascribe to the promptings of our natural appetites. They might as well make us believe in the natural passion for prison life, because the victims of the Holy Inquisition became so used to their subterranean dungeons that they finally dreaded sunlight and refused to accept the offer of freedom.

"The unimpeachable testimony of instinct also clinches the physiological arguments against such doubtful delicacies as strong cheese, pickles and all sorts of spices. Children would as soon share the repast of a turkey-buzzard as the lunch of a gourmand who washes down a plate full of Limburger with a mug of ale—not to mention the *haute-gout* steaks and absinthe of French epicures. In the Faroe Islands famine has developed an unnatural passion for putrid fish, but the youngsters of those islands are not apt to covet the tidbits of their elders so long as they can find a crust of barley-bread, and the company cook of Fort Concho, Texas, came near getting his throat cut offering a Commanche chieftain a dish of vinegar-pickles."

Not in a state of health alone do animals and man behave alike, but in sickness also. Sick animals seek rest and seclusion and abstain from food, sometimes even from water, facts which reveal that man has no monopoly on the factors of hygiene in the care of the sick. Hygiene belongs not to man alone, but to the whole organic world. Its

practical application must vary with the varying needs of the many forms of plant and animal life, but there is no form of life, from ameba to man, that does not require to meet its elemental needs in a manner conforming to its constitutional character.

Hygiene belongs to life—to all life. From the beginning has hygiene existed; from the beginning has hygiene been supreme. The well-springs of hygiene gush forth from the bed-rock of organic principles that are as eternal as the law of gravity. For this reason, greater discrimination is essential in our estimation of the presence and force of the various biological factors contained in systems of care that are offered for our consideration and acceptance or rejection.

EDEN REVISITED

Chapter 4

Man is part of a rich and multicolored world of substantial and active beings, each with a nature and freedom of its own, yet each bound to the earth by the same ties. All life forms obey the same laws of life and meet the same basic needs of existence by ways that conform to their structural adaptations. Primitive man's initial activities must have been rigidly confined to those spheres to which his constitution adapted him. If the toad must hop and the bird must fly, man was forced by the very limitations of his make-up to adopt a way of life that these made possible. On this basis we are justified in assuming that the pristine mode of life of man followed very closely certain well-known patterns. Primitive life, unlike the fragmented life of civilized man, was certain to have been integrated into a consistent whole. Primitive man lived his life as a unit.

Nature provides for man's body by making his wants few and easy of satisfaction. The earth, the sky and the sea are his assistants. The air, light, heat and water are agents that assist her in providing for man. Her productions for man's body are abundant did man not neglect and destroy them. Man has been provided with the means and the stamina to live to a good old age, until he sees his children's children playing at his feet. Lucretius has well expressed the thought that nature's provisions are ample in the following lines:

Our kindly mother, when she hath conceived
The drops of watery moisture, big with life,
Doth bring to birth the smiling crops, and trees
That glad man's hearts, and race of mortal men;
And every kind of beast she bringeth forth
And giveth to each his meat, whereon they feed,
Drawing therefrom a pleasant sustenance
And breed their offspring . . .

All of this is not to say that there were never droughts and famines, that there were never blizzards and floods, that there were never times when it was hot and humid, but it is to assert that as a general thing, primitive man had the means of life close at hand at all times. Fortunately, also, he was not rooted in the earth, but could move from place to place, so that he could move from places of scarcity to places of abundance. He could seek warmth or the shade, could hide from the storm or flee from the flood. Considering him as a living being meeting the exigencies of his environment as such a being, he instinctively followed certain well-known ways of life.

Prof. W. C. Allee says in his scholarly work on *The Social Life of Animals* that the growing weight of evidence "indicates that animals are rarely solitary; That they are almost necessarily members of loosely integrated racial and interracial communities, in part woven together by environmental factors and in part by mutual attraction between members of the different communities, no one of which can be affected without changing some or even all of the rest, at least to some slight extent. Contagious distribution is the rule in nature." Any picture of primitive man as an isolationist, living alone, and any thought that "every man's hand was against his neighbor" is based on lamentable ignorance of nature. Man is, no doubt, a social and not merely a gregarious animal.

All the evidence we have of our earliest historic period reveals that, simple and often rough as the lives of our ancestors may have been, they were all still possessed of the instincts of humanism. Our ancestors, call them Pagans if you will, understood that nature had implanted in the human constitution mercy and reason as her allies. As Seneca expresses it: "We are members of a great body. Nature planted in us mutual love, and fitted us for social life. We must consider that we are born for the good of the whole." Jesus expressed this more succinctly when he said: "No man liveth unto himself." The doctrine of "rugged individualism" is a modern political idea and came into existence in an effort to preserve the existing system of human exploitation. It adds nothing to the sweetness of life nor to the stature of man.

All the higher animals care for and protect their young. This parental care of the young is especially marked in the primates, animals next to man in structural and functional constitution. We cannot conceive of the human race having survived through the many millennia that it has existed on the earth, without even greater parental care of the young than that seen in the highest primates, as the human young actually require more such care. The human infant required love and care in the distant past as now; and we may not unreasonably think that primitive man cared for his young as tenderly and loyally as do the higher animals of the present, if not more so.

Finely organized animals need more care than others and this is particularly true of their young. The human infant, requiring more and longer care than any other animal in nature, could not have grown to maturity had primitive man not devoted himself or herself to the care and protection of his or her offspring. Experiments by psychologists have revealed that not only human young, but the young of many other species, languish and die without love and tender care. Karl Marx has left us the observation that in England, during strikes, when working mothers gave more attention to their babies, which they necessarily neglected while working in the mills and mines, the babies blossomed

out like roses in their mother's arms. Someday our bat-blind and acquisitive society is going to learn this simple truth and take its women out of the industrial tread-mills. Women are going to be emancipated, that is, they are going to be freed from the merciless industrial exploitation that they have mistaken for emancipation.

There is a great body of anthropologists today who hold that human beings are born with their needs oriented in the direction of love and they point out that in most human societies, if not in all, the trend has been towards cooperation rather than towards competition. My own opinion is that cooperation has been the norm of human life from man's beginning. We are social beings, needing each other. It is literally true that "no man liveth unto himself." All the evidence we have points to the conclusion that early man was as much of a social animal as any of the social animals below him. Man's social life must be explained by itself and not by bringing in such external factors as environment and psychology.

Even those anthropologists who regard man as little more than an ape that has learned to walk on his hind legs, are agreed that primitive human society was one of sharing in sharp contrast to the animal horde, where competition in food getting is dominant. But even among animals, there are many that work cooperatively and sharing is more common than is generally supposed. An example comes ready to hand in the bees, where honey is socially produced and shared by all. A similar cooperative producing and equality of sharing is seen among ants. Sharing between the sexes is even more common and the sharing by parents with offspring is practically universal among the higher animals.

It is said that popularly, cruel belligerence is considered the epitome of human nature. This has never been true of man in any age and in any stage of culture. The paradox of man is that this belligerence reaches its zenith in that socio-economic state that is farthest removed from man's pristine state. Civilized man is the cruel butcher of his species. It has been said of the Bushmen that "it is not in their nature to fight." This non-belligerence is more in keeping with the constitution of man; his modern blood-thirstiness is the outgrowth of social conditions that turn him into a black leopard.

Primitively the family economy represents a pooling of goods and services. But mutual aid extended beyond the family. Planters and hunters shared their crops and their game with the rest of the group. Indeed, private ownership of land was not a primitive institution and the people worked the land cooperatively. The produce belonged to the group. This was primitive socialism, such as the early Christians tried to re-establish.

In primitive societies, food, the basic need of everyone, must always be made available to everyone. The scarcer food became the

more reason there was for sharing what was on hand. Unlike the civilized man, who thinks of things in terms of "mine," the primitive man thought of things in terms of the group.

Primitive man lived in the open, where the air was fresh and pure. The air was not contaminated by the exhaust from automobiles, by the effluvium from stockyards, the fumes from tan-yards and glue-factories and the chemical emanations from laboratories, chemical industries, rubber factories, etc. He did not live in unventilated homes and work in offices, workshops and factories that were laden with foul air.

Before he learned to make clothes, man went about naked in the air and sunshine, thus he had no need for sunbathes as he was enmeshed in the lustral rays of the sun much of each day. After he began to clothe himself (it is argued that he first adorned his body rather than clothed it) his clothing covered only certain regions of his body, so that much of it was exposed to sun and air all of the time. His needs for fresh air and sunshine were supplied without effort or conscious attention to their supply. They were integral parts of his normal existence, their supply being automatic.

The beautiful garden in which Adam and Eve first tasted the exquisite thrills of living was bounded by rivers and watered by mists. Man has not only worshipped the sun as the giver of life, but he has worshipped the rivers also, as the sustainer. Water as drink was and is as important among the needs of life as air and food. Dehydrated protoplasm is as lifeless as the dust under our feet. Man drank water when he was thirsty. Only at a much later date in his period of sojourn on the earth did he learn to substitute other and less valuable or even harmful fluids for the elixir of life that water is.

As earliest man had not learned to produce fermented liquors nor to brew foul decoctions from poisonous substances, such as tea and coffee, and as he did not have soft-drink factories turning out poisonous slops with which to *refresh* himself, we may be certain that his only drink was water—water is really his only drink, even now, all other liquids being either food or poison. Like the animals, he probably sought the purest and coolest water he could find. The myth that mineral waters and water that is foul of taste that the cows won't drink it, possess medicinal virtues came into existence after man had been on the earth a long time. Many animals and birds drink water where there is an audible ripple in the current; the cow prefers a brook to a pond and a running spring to a sluggish creek. Purer and cooler water is secured in this manner.

Man has not been equipped by nature with weapons of offense, he lacks, even, weapons of defense. He lacks claws, spurs, tusks, horns, stingers, electrical shocking organs and other weapons of defense and offense. He is lacking both in stamina and fleetness, his

special senses are not as keen as those of many of the lower animals. Logically we would expect such a being normally, at least, to be a peaceful and peace-loving animal. Fighting, preying, rending, tearing, killing, drinking gore and eating flesh—these would seem to be activities foreign to his constitution.

His structure and physiology ally him with the higher anthropoids, which are all known to be frugivorous in their dietary practices. Inasfar as man's structural adaptations and functional capacities differ from those of the higher anthropoids, these animals stand between man and the lower mammals. As man is not equipped with a snout, like the hog, to enable him to root in the earth for food, he is logically thought to have confined his eating, in the beginning, at least, to food substances that grew above the ground. We logically suppose man's original diet to have been a primate diet and that he has deviated from this during the course of the ages for a variety of reasons. With all of his deviations, he has undergone no modifications of structure and function that make him any the less constitutionally a frugivore.

If man attempted to eat flesh before he had learned to make and use artificial weapons, he must have been confined to insects and small animals, like rodents and lizards, that he could catch with his hands; else, like the hyena, he followed behind the true carnivores and ate what they left after they had devoured a kill. H. G. Wells suggests that primitive man killed aged animals and ate rotting carcasses, but Wells accepts the carnivorous tradition that the expediency-serving biologists and anthropologists have built up for us. Man may have used traps and poisons in advance of his use of weapons in securing animals for food. He is certain to have found means of poisoning larger and dangerous game—deadly and tasteless poisons are widely employed by living primitives in their hunting operations.

That man did ultimately learn to eat flesh and that he actually deteriorated into the universal scavenger admits of no doubt. There are some things that the normally carnivorous animals reject as food, but there seems to be nothing that man in his present state will not eat; from rotting (ripened) poultry, through insects, snakes, snails, pickled bees, skunks, bears feet, bird's nests, excrement and filth of various kinds, as well as clay, man eats anything that a termite will sample. It is not conceivable that this was his dietary practice from the outset. We may be sure that he had no means of pickling bees; it is hardly conceivable that he ate the excrement of animals and such things as snails, earth worms, beetles, bird's nests, other men and women, and many other articles of food that men in various parts of the earth are now observed to eat. Indeed, it seems to me that the very fact that the eating of such substances is confined to relatively small local areas and that they are not widespread practices, indicates very strongly that they were never general practices of the race.

That man in his spread over the earth has acquired and cultivated many dietary practices that did not belong to his pristine way of life and do not fit into the constitutionally circumscribed ways of life that we should expect him to follow, seems certain. Perhaps much of this has been made necessary by the exigencies of circumstances; his very survival under the many adverse conditions to which he has been subjected has often necessitated these departures from the primate diet. Many of his perverted practices are certainly outgrowths of the system of magic. If I read the evidence correctly cannibalism, which has never been universal and has always been practiced, where practiced, only at intervals and for special purposes, was almost always of magical origin.

We may be certain that before the domestication of milk animals, primitive women were compelled to nurse their offspring. It is hardly probable that they learned to depend upon the cow, goat, ass, camel, deer and other milk animal immediately upon the domestication of these animals. They did not feed animal milk to their young. Primitive mothers disdained calling in the assistance of the animal world in feeding their babies and children. Egyptian evidence reveals that the ancient Egyptian mother, like the mothers of many existing savage tribes, nursed their offspring for three years or more. This is most likely to have been the practice of primitive mothers.

Modern civilized man or should I say woman, particularly in the West, has become so dependent upon the cow and goat for nutriment for human young and civilized women have become such poor organisms, so far as reproduction and lactation are concerned, that it is difficult for us to conceive of our ancestors getting along without the "aid" of a huge dairy industry, although we know, historically, that the dairy industry is the product of the past two centuries. Had primitive women been such poor mothers, modern man would never have come into existence.

We are certain that before man learned to make and use fire he ate his foods uncooked. Prior to the discovery of fire, those portions of the race that ate flesh, ate it uncooked, as do many so-called *primitives* today. A Sumerian hymn states that the Amorite nomads of the Western hills ate uncooked flesh and did not live in houses. This was in the third millennium B.C. As cooking destroys many of the vitamins, alters some of the mineral salts, de-aminizes certain of the amino acids, changes the fats into free fatty acids that are poisonous, and otherwise destroys food values, our primitive ancestors were better nourished than are we.

Man's myths and traditions point backward to a time when he ate principally of the fruits of the trees and the produce of the garden. Certainly, on the basis of his structure and function, this is what we should expect the primitive diet of man to have been. He ate fruit

before he became a hunter; he cultivated the soil before he learned to slay, kill and eat the blood and flesh of animals. Our biologists and anthropologists have turned man upside down. By hypothesis they derive him from a primitive ancestor but make him into the most carnivorous of beasts.

For the most part primitive man ate his foods fresh as he pulled them from the trees or took them out of the ground or killed a food animal. They were eaten whole, not processed and refined, hence he received all the nutritive elements these contained. His foods were not adulterated, chemically preserved and conditioned, and they were not sprayed with a variety of poisonous insecticides. They were not artificially colored and flavored and were not tampered with by the food manufacturers. In other words, all of the food evils that are now slowly killing modern man were unknown to primitive man. Even salt, the first additive that man employed, was not used by primeval man.

Hunger should be a reliable guide for man, as for the lower animals, as to when to take food. Taste should guide him in the selection of food and rejection of poison, as it does the animals below him. Animals are also guided in these matters by the sense of smell, which should also assist man in selecting the materials he takes into his stomach. Man's own animal senses and animal instincts are his normal guides in living and it is only because he has blunted, perverted and suppressed these and forgotten how to interpret their language that they are no longer the reliable guides they must have been in our primitive ancestors.

Severely wounded and acutely ill animals instinctively fast. The wounded elephant does not fast because of any knowledge of anatomy and physiology, because instinct impels him to do so. Acutely ill humans also fast instinctively, if left alone and are not urged to eat in spite of an obvious dislike for or repugnance to food. Prehistoric man was not troubled with any theories about eating to keep up strength and to build "resistance." He may be reasonably assumed to have been guided by his instincts as truly as are the lower animals, without the interference of *scientific* theories and without interference of physicians and family. It is reasonable to think that prehistoric man fasted when actually ill. It is equally reasonable to think that, when he was but slightly ill, and there was a limited desire to eat and a limited digestive capacity, he ate but small amounts of food. Because the fasting practices of mankind later became mixed and mingled with his magic and religious practices and were often indulged in as a means of penance, they are not to be condemned as some have done.

The inner resources of living organisms help them over many difficulties and through many trying times. It was the view of Dr. Oswald that "most wild beasts have a little of that talent of hibernation which helps squirrels and badgers over the worst hours of the long

bionir-nott—the ‘bear’s night’—as the old Germans called the winter season. During the heavy ‘norther’ buffaloes often stand in the hollows of the Texas cross-timber for days together in a semi-torpid state, and the little musk-ox probably draws considerably upon inner resources to survive the terrible snows of the Hudson’s bay territory,” —*Zoological Sketches*, P. 65 (1883).

If an animal can go without food, as in hibernation, when cut off from food, when there is a lack of food, when actually ill and severely wounded, or during the breeding season, it is because it possesses within itself a store of food that is adequate to sustain its essential activities for a prolonged period. Exhaustive studies of these periods of abstinence have demonstrated conclusively that the animal is not harmed by the abstinence until after its inner resources are exhausted. Death must come, ultimately, if this period without food is too prolonged, but so long as the inner stores are adequate to meet its essential needs, no harm can come to its functioning or vital tissues.

The sick organism, being unable to digest food, the severely wounded organism, being equally unable to digest food, makes use of its inner stores to tide it over the period of illness or the period of repair that heals the wound. Thus it is that we see sick and wounded animals instinctively fasting and note that there is the same repugnance to food in sick and severely wounded human beings. Man, like the lower animals, carries a store of reserve food to tide him over prolonged periods when food is not available or cannot be taken. Shipwrecked sailors and entombed miners may go for days without food and survive unharmed. Volunteer fasts, ranging from a few days to over a hundred days, are numerous and benefit rather than harm has come from these periods of abstinence.

If the primal instincts of early man were as reliable as those of the lower animals, and we have no reason to think they were not, he doubtless sought out a shady, even a darkened and quiet place for rest when acutely ill, just as, today, we observe sick animals doing.

Primitive man’s life must have been one of great physical activity and it is probable that, like that of the animals, it provided all of the physical exercise for all parts of his body that was required. Formal gymnastics and grunting with weights came after man had largely abandoned his normal ways of life and had adopted sedentary and lopsided ways of living. Anthropologists and archeologists say that sedentary occupations are traceable back to the Neolithic age. The number of individuals engaged in sedentary occupations at that time must have been relatively small. While the necessities of existence must have compelled primitive man to be active, we may well doubt that he worked the long hours at grinding toil that has cursed the working classes in civilized life for nearly six thousand years. The South American Indian who exclaimed: “Ugh! Civilized man work life

out trying to keep life in," well expressed the contempt wild man has for the life of domesticated man.

Thousands of years before man organized games for exercise, animals engaged in markedly formalized play. We are not assuming too much when we assume that many games were indulged in by prehistoric man. He may have indulged in these for the sheer joy of action, but they constituted, nonetheless, forms of exercise that helped to provide him with development, suppleness and stamina.

The children of primitive man must have played as vigorously as the most energetic children of the present, much of their play being of a character that we try to imitate in our gymnastic exercises and in our games. Walking, running, jumping, climbing, wrestling, lifting and other activities must have been regular parts of the life of primitive man. Nature was his gymnasium, life his physical director. Does the mighty elephant, the lion, powerful "king of beasts," the huge bison or the bull gorilla spend hours in a gymnasium taking formal exercise in order to attain his might? The gymnasium is not a necessity of life when life itself provides adequate and all-round exercise.

If we can judge by his bones, primitive man was a powerful animal, perhaps the equal or the superior of our mightiest specimens. As muscle size is normally correlated with bone size, the large bones of our primitive forebears may indicate a strength of which we do not even dream. It is thought that primitive man had to match wits and strength with the saber-toothed tiger. Certainly with the wilds filled with powerful beasts and, with little or no weapons with which to defend himself, primitive man had to possess a degree of strength and stamina that we seldom see today. He had to be alert and strong and fearless, else would he have been destroyed. Can there be truth in the early traditions of men who slew lions with their bare hands? Were Nimrod and Samson, David and Ajax, Hercules and Milo and other mighty men of early renown but specimens of the great strength that our primitive ancestors possessed? He was no cringing coward who conquered the first stallion; he was no weakling who domesticated the first bull. Those ancestors of ours who not only met and defeated the huge beasts of the wilds, but brought even mighty elephant under their sway, were men of strength and courage and resourcefulness.

If we can see in the myths and traditions of mankind, not the wild and fantastic notions that the "superior" modern mind thinks they represent, but accounts of actual occurrences, slightly colored and magnified, it may be, by repeated reiteration, but essentially true, and having their basis in feats and experiences of some great ancestor who left an indelible mark upon the minds of his contemporaries and successors, perhaps we can gain some understanding of the remarkable powers of strength or speed, of accuracy of aim or of inventiveness of some of the outstanding geniuses among our prehistoric forebears.

Rest and sleep are essential elements of living in all stages of human culture. We may be sure that, without the taskmaster standing over him and driving him to added effort, primitive man rested when he was tired and slept when he was sleepy. Without artificial light to turn his nights into day, without night clubs and other nocturnal diversions to distract his attention from the serious business of living, primitive man, like the animal kingdom and modern savages, must have retired shortly after sundown and arose early in the morning. If early to bed and early to rise did not make him wealthy and wise, it must have at least aided in keeping him healthy. His hours of sleep were regulated more by his activities and by the seasons than by the artificial demands of civilization and it is impossible to think of him as "needing" sleeping potions. A normal way of life assures normal sleep.

The lower animals and so-called savages remain in the sun in the morning and come out again in the late afternoon, but they retire to the cool of the shade during the hot portion of the day, during which period they enjoy rest and sleep. It is highly probable that primitive man carried out this same instinctive practice and the practice of sleeping at noon day, seen among many peoples of the present, is but a survival of this pristine practice.

On page 65 of his *Zoological Sketches* Dr. Oswald says that: "In the instinct of finding shelter-places from the cold, Mammals are far superior to the birds, probably because they cannot emigrate so easily." Shelter from heat and cold, from rain and snow, from storm and hail, is among the requirements of survival that man, as well as the lower animals, had to find or improvise. Although he has often shown a remarkable lack of intelligence in building his abodes under the brow of volcanoes or in the lowlands near the river, where floods carry him and his houses down stream, man has proved more versatile in devising shelter from the inclemencies of the weather than any of the animals of the earth.

Before he acquired the practice of building homes of mud, stone, wood, etc., that excluded the air, and before he began to crowd into great cities with their inevitable pollution of the air, it may be taken as a matter of course that primitive man spent his life, as do the animals of field and forest, in fresh air both day and night. The exceptions are those relatively small portions of the race that resided in caves. It may be assumed that during the winter and at night time, the cave dwellers were in poorly ventilated caves. Only after man began to manufacture goods and to pollute the air of his cities with the fumes of the tan-yards, perfumeries, distilleries, wineries and foundries, and to live in houses built of solid structures that excluded the air, did he live in polluted air. Even these features of late primitive life were confined to small segments of the race, as most men continued to live in the country. When man learned to keep animals and had vast herds of

these, with which he lived in intimate contact, he experienced a small sample of what the denizens of Chicago's stockyard district contend with all the year 'round.

Life would be a curse to the denizens of our large cities if nature had not blunted their senses of smell and hearing. The effluvium of the stockyards would empty Chicago of a large portion of its population if the sense of smell of those who inhabit the region near the yards were as acute as that of the Native Americans. The wind in the right direction, the deer senses the approach of man or wolf at a great distance and acts upon the warnings of instinct to save its life. To an animal, like the dog, that can distinguish the "cold trail" of a rabbit, even from a distance, odors which offend our blunt olfactory must be unbearably irritating. It may not be true that the olfactory sense of man was ever as keen as that of the dog, but it is impossible to conceive of our out-door living ancestors being comfortable in the foul odors of a tan-yard or amid the compost of a cow-lot. Man must have inured himself to these evils slowly and lost the keenness of his primitive senses only gradually.

The jungles are often noisy and man in the jungle becomes indurated to the noise. It is doubtful if the jungle is ever as noisy as the large city, with its roar of traffic, its honking of automobile horns, its screeching of brakes, blowing of whistles, cries of peddlers and thundering of elevated trains. Living next door to the elevated line, the citizens of New York or Chicago become inured to the noise and manage to sleep despite the frequent passing of the elevated trains. Workers of mills and factories become deadened to the noise and the roar of machinery, otherwise would such work be unbearable. But we are weakened by this blunting of our natural senses and are injured by the suppression of our instincts. When we repress the urge to flee from the noise and the stench of the cities, we serve the exploitative forces of our civilization, but not our own welfare.

Man was not primitively nomadic. The arboreal or the agricultural society is essentially a rooted society, its life being related to the organic cycle of nature. On the other hand, it would be difficult to think of a more rootless society than that of the nomad until after he had domesticated animals. Domestication of the ass gave rise to the ass-nomad; domestication of the camel gave rise to the camel-nomad. The nomad and his animals moved from a place or a district which they had befouled to a clean place in search of water and pasturage. There are numerous references to the contamination of the land in the Old Testament, but these seem not to be understood by present-day students of ancient literature. A stationary people, with herds and flocks, are forced to remain amidst this befoulment, a fact that renders their abode highly insanitary. An agricultural and arboreal culture, though stationary, would not befoul the land.

The architecture of birds in building nests has been a wonder to man ever since he began to observe and think of the ingenuity of these feathered friends in providing homes for their young. We designate their building work as an instinctive skill. Instinctively the beaver builds a dam and builds his own home in the water thus provided. Dens, burrows and shelters of various kinds are built by other animals, often lining them with grass, hair, fur, leaves, feathers, etc. Certain of the apes are said to build rude shelters. The ingenuity of certain wasps in building their homes of mud is a constant source of wonder. Must we continue to think of the greatest builder of them all—man—as having begun his building on any other than an instinctive basis? The men who built the first pyramids in Egypt and the hanging gardens in Babylon were but the great grandchildren of men who made arrow tips of stone and polished stone instruments to serve as tools. Is it too much to think that primitive man may have instinctively built shelters for himself and his family? Are his present complex and massive structures but intellectual extensions of his prior instinctive practices? Are not his building skills based solidly upon instinctive techniques as marvelous as those displayed by birds and beavers?

It is true that there are tribes of men who built not at all or built but little and that crudely. We also find birds, certain varieties of which have ceased to build nests or which build crude and apparently inadequate nests. They seem to have lost the building instinct. Have some tribes of men also lost this instinct? It is also true that we employ tools in our building operations and we employ tools in making our tools, but it is equally true that no tools were used in making our first tools. It is just probable that no tools were employed in making our first homes. I do not think that we can believe that man first lived in caves and, then, after the population outgrew the supply of caves or we had migrated to regions where caves were scarce or absent, he learned to construct artificial caves in which to live. As a nude animal, man has more need for shelter than many animals that regularly build shelters. Those animals that do not build shelters seek shelter from cold, heat, rain and strong wind.

Man ran into trouble when he began to build shelters that excluded the air, so that he lived in non-ventilated abodes. He got into trouble when he made stationary shelters that could not be moved as the land became insanitary. These evils necessitated that he find ways to provide for ventilation and ways to carry off the filth. When we observe animals cleaning their nests and burrows, we may think that man's instincts also led him to undertake to clean his abodes and surroundings much earlier than archeologists have found.

I do not think that it is possible, on the basis of the meager data we possess, to determine what were the primitive sexual practices of mankind. As a healthy, unperverted animal, we should naturally

expect him to follow certain modes of sexual conduct, but we cannot, on the basis of the data we have, assert that he did so. We may be certain that human beings mated, just as animals mate, and that until very recent times, they did not purchase a marriage license, that their unions were not recorded, and that, prior to the rise of the priestcraft and for a long time thereafter, they did not have their unions solemnized by the priestly ceremonials. They mated, cohabited, reared their children and, for the most part, it seems, were monogamous. Lifelong unions may have been the rule, although we cannot assert this to have been so.

Greek mythology strongly suggests that the prehistoric Greeks practiced polygamy and incest. Indeed, incest or mating of near-of-kin was practiced by all the nations of antiquity and is still practiced in much of the modern world. The practice was in full flower at the dawn of history and must have been carried over from the prehistoric era. It is almost the rule in the animal kingdom and is employed by animal breeders, under the term *in-breeding*, to improve their stock. Mendelian experiences have shown it to be a means of channeling undesirable traits out of a breed. It is certainly not the unmixed evil commonly supposed.

The evolutionist assumes that man is descended from some unknown primate. Incest is the normal mode of mating among living primates. If man's origin was as they think, incest has been normal with man from the very beginning of his existence as man. The Christian believes that God created a single human pair and that all mankind are descended from the single pair. This means that the children of Adam and Eve had nobody to mate with except their brothers and sisters. The second generation could mate only with brothers and sisters or with "double cousins." Even the mating of Adam and Eve was a closer union than a brother and sister union, for Eve was made from Adam. It was a case of self-fertilization or the mating of identical twins of opposite sexes. After the flood, when but three reproducible human pairs were left alive, the marriage of close of kin had to begin all over again. Accept either the creation or the transformation hypothesis and we have incest as the normal way of life. Incest was common practice among the Egyptians, Babylonians, Greeks, Hebrews and many other peoples at the dawn of history and long thereafter. What other conclusion can be drawn but that it was a prehistoric practice?

Polygamy, common to many peoples throughout history and still practiced in some portions of the earth, including America, was always confined to the few who were wealthy enough or powerful enough to secure and support more than one wife. The evidence that polygamy was a primitive practice is not very strong and it is hardly likely that it was ever a general practice.

How many of the wasteful and perverted sexual practices found among mankind today were practiced by primitive man and how widely they were practiced we cannot determine. Masturbation, coitus interruptus (the true Onanism), Sodomy, fellatio, cunnilingus, coitus reservatus, infanticide, wife stealing, wife killing, and many other sexual practices that have been and are widely employed would seem, on the basis of what we observe in the lower orders, to have been rare to non-existent. Certain of these practices seem to have been widely indulged at the dawn of history. How far back into prehistory they extended is something that we cannot determine.

To this point our researches and considerations have brought out the fact that primitive man's modes of caring for the well and the sick had their foundation in the actual needs of the body. These are basic, no matter what other modes of care are employed. Man, no more than the animals, needed a knowledge of anatomy and physiology to know that he needed food, water, air, activity, rest and sleep, warmth, cleanliness, sunshine, shelter, etc., and that there is definite repugnance to food in acute illness and when severely wounded. When he was ill and did not feel like being active, he needed no knowledge of physiology to impel him to rest. Life makes its genuine needs known by unmistakable signs and sensations in the form of appetites, desires, hungers, drives, pains, discomforts, disinclinations, etc.—in a word, in instinctive demands for the things needed. Experience, if not instinct, taught man the value of moderation and the evils of excess.

Prehistoric man lived under many and varied circumstances, had a wide variety of experiences and he must have learned from these. Archeology and anthropology supply us with a wealth of facts that indicate that primitive man was a very intelligent being, perhaps even more intelligent than we are. No doubt certain of primitive man's hygienic regulations, were empirically discovered and were not instinctive. The instinctive hygienic practices that he brought with him into the historic period belong to him as a way of life and antedate, in their origin, the system of magic that originated sometime prior to the dawn of history. The rudiments of the drug system may have come along with the magic, although this is by no means certain. The herbal substances used by the magi (later by the leeches) were a part of their ceremonials and were not used as healing agents. Surgery, largely as massage, also came from the prehistoric period as a means of caring for wounds and hurts. Prehistoric man knew no system of medicine; he had no conception of cure and employed no so-called therapeutic modalities.

MAN'S ORIGINAL HYGIENE

Chapter 5

Ancient Hygiene is properly regarded as a continuation of Primitive Hygiene. Inasfar as it differed from Primitive Hygiene, it represents an adjustment of the total pattern of life to the changed conditions of man's environment.

History does not so much replace prehistory as succeed it. To a great extent history is the flowering of prehistory. In all civilizations there exists a rich and continuous prehistory. If this is true, certain important conclusions are permissible. Perhaps the first and most important of these is that man brought his prehistoric practices and customs into history and continued them long thereafter as integral parts of his way of life. Indeed, much of what we call modern life is traceable to man's prehistoric way of living. It is essential for us to keep in mind, as we study our subjects, that there is a basic unity and continuity of man's total pattern of life, reaching all the way back to his origin and extending to the present.

At the very dawn of history man was in possession of a knowledge of living that could not have been based upon any knowledge of physiology. He possessed a knowledge of the effects of emotions that could not have been based upon any great psychological research. His ways of life, crude as we may often think them, were of a character to meet adequately his animal needs. From whence came this knowledge if not from the instinctive way of life which he shared with the animals beneath him in the scale of being? Man has always possessed a set of rules of conduct that was common to the whole race. Hygienic advice is common to mankind and is not the findings of any professional group.

The medical historian, Cumston, who attempts to discover an instinctive basis for the absurd and damaging practices called medicine, says that hygiene, which he thinks is derived from physiology and etiology, "is contemporary with the study of disease, or perhaps it were better to say, was born from the terror, rather than the knowledge of disease." Contradicting this statement he says that hygiene "had been an art before it became a science," and that "in Egypt, and in all the Orient, hygiene was a part of religious worship. With the Greeks hygiene became a science and has progressed from their days on." The Greeks had much knowledge of hygiene, but it is false to say that there has been progress in hygiene from their age to this. There was a long period during which hygiene was neglected by the people, by the priests and by the medical profession, its modern revival being achieved against strong medical opposition.

Cleanliness (purity) is one of the basic elements of hygiene. A knowledge of the importance of cleanliness has been in mankind's possession since the dawn of recorded history. Religious leaders like Moses and Mohammed taught cleanliness to their followers. The ritual baths of the ancient religious orders were often nothing more than magic substitutes for real purity. On the other hand, it now seems evident that the baptism of the ancient Essenes was but admission to the daily baths taken by the members of the community.

Because they fail to distinguish between the genuine and the feigned, Orthodox writers like Calder say that hygiene is derived from cult-cleanliness. Such a statement implies that bathing (cleanliness) constitutes the whole of hygiene and overlooks the fact that "cult-cleanliness" could have arisen only after the origin of cults. These came at a rather late period in human existence.

Cleanliness is coeval with life. It is a prerequisite of organic existence. Bathing has been practiced by man since his introduction upon the earth. The first peoples of the earth immersed themselves frequently in rivers, lakes, and in the sea. Our records are not old enough to provide for us the names and practices of our most primitive ancestors, but our oldest records do reveal men and women bathing at the very dawn of recorded history.

When Isis, in the Egyptian myth, visited Syria in her search of the body of the slain Osiris, she came to a splashing "lively fountain where the ladies of Queen Ishtar of Syria came every afternoon to bathe." Pharaoh's daughter is pictured to us bathing in the Nile. Nausica and her companions and also Agenow are presented to us bathing in the river, and we learn of the Amazons refreshing themselves in the waters of Thermodon. The Greeks plunged their tender infants into cold torrents; Moschus and Themocritus have Europa bathe in the Anaurus and the Spartan girls bathe in the Eurotas. Early Vedic literature reveals the Aryans as frequently bathing. In the beautiful Indian myth of Rama and Sita, we learn that Rama fasted; he, his brother and Sita drank spring water and bathed each morning in the river. Before man learned to provide household facilities for bathing, streams, lakes, ponds and oceans constituted his bathtubs.

Domestic baths were not unknown in the early ages of history. Diomedes and Ulysses are each represented as making use of such after they had washed in the sea. Andromache prepared warm water for Hector, who had just returned from battle, while Penelope, to banish sorrow, called for the aid of unctions and baths. Minerva at Thermopylae, is feigned to have imparted, by such means, vapor to the wearied limbs of Hercules and, in place of other gifts, Vulcan offered him warm baths.

Pindar praises the warm springs of the Nymphs, while Homer himself, who stressed the pleasures of bathing, not only makes mention

of a hot and vaporous spring adjoining a cold one, but even describes to us baths which, by common tradition, were situated near Scamander in the vicinity of Troy. Warm springs, cold springs, and mineral springs were all employed as places in which to bathe and thus cleanse the body, long before there was a bathtub. Here I need but allude to the natural warm baths of Bithynia and Mytélène mentioned by Pliny, and to those of the Etruscans, as among the baths most early and extensively known and resorted to.

Purity meant not only physical cleanliness, as provided by bathing, but purity of thought and action. The Egyptian idea of leading lives in truth and harmony was old when Memphis was founded. At the entrance of the temple of Epidauros (in Greece) were these words: "Pure must be he who enters the fragrant temple; purity means to think nothing but holy thoughts." The sick had to bathe and put on a white chiton, after which he sacrificed to the gods—honey, cake, fruit or a rooster, according to his means. Everywhere cleanliness was enjoined.

Female chastity and manly virtue were alike demanded, not only as a means of preserving the integrity of the individual, but also as safeguards of the integrity of the family and race. The ancient writer who declared that the "debauched man finds no peace in the body of his flesh," expressed an understanding of the results of debauchery that is often lacking today, even among the presumably educated, whether we think of intemperance or sensuality.

Modern man is hungry for a lost purity and freshness. He is suffering from a dearth of vigor and a lack of enthusiasm for life. He even doubts that life has any value of its own. He takes refuge in an escapist, hedonistic pessimism that runs to immorality rather than to glorious living. He rejects the happy life and retreats into the pessimism of Sartre or a Joseph Wood Krutch.

Among many ancient people, cleansing the body and moderation in eating and drinking were raised to the status of divine commands. The ancient lawgivers seem to have realized that, unless man has it repeated over and over to him that he must take proper care of himself, he will become neglectful and careless. Perhaps this is the reason they made cleanliness and dietary regulations and other elements of their hygiene a part of their religions.

How long man lived upon the earth before he acquired the practice of drinking alcohol is something we will probably never know, but some of his alcoholic liquors seem to have been drunk in prehistory. It seems, also, that he early learned to recognize that "wine is a mocker and strong drink a delusion." Archilochus of Paros referred to his senses being "thundered away by wine."

Temperance was taught by religious leaders and philosophers long before there was a medical profession even in rudimentary form. While today the practice of abstaining from wine and fermented

beverages is commonly referred to the ascetic pattern of life, there seems to me to be no valid reason to so castigate this wholesome practice. Our condemnation of the drinking practice rests on the fact (we are convinced that it is a fact) that it is opposed to the primal order of creation.

As diet shall be discussed in a separate chapter, brief references to this part of ancient hygiene will be made at this place and I shall begin at the beginning, with the care given infants.

We are informed that childbirth among the Babylonians was "evidently satisfactory" and this was so in complete absence of physicians and the meddlesome midwifery of the present. The same satisfaction with birth seems to have been true in Egypt, the remainder of the Orient, in Greece and elsewhere. In Egypt babies were nursed up to three years, wet nurses being employed to provide milk for the infant if the mother's supply failed. In ancient Mesopotamia, as in all the ancient East, babies were nursed for the first three years by their mothers. If the mother's milk failed, and the parents could afford it, a wet nurse was engaged to supplant the deficient mother. In Greece, as elsewhere in antiquity, babies were breast fed for a long time, usually two to three years. If the mother died, or could not nurse her baby, the baby was fed by a wet nurse. The cow and goat were not called upon to adopt the human young. Such are still the practices among living so-called *primitives*.

On the basis of the archeological evidence that has been amassed, many authorities are convinced that civilization had its beginnings in Sumer, although there are those who hold that Egypt was the birth place of civilization. Sumer was succeeded by Babylon, the Babylonians taking over the Sumerian culture and adding little to it. Indeed the whole civilization of Chaldea, Ur, Mesopotamia, Babylon, Assyria and the remainder of the Mediterranean Crescent was one civilization. It is difficult to separate them in our thinking. It is important, however, that we understand that in any consideration of the way of life of a people it is necessary to include both private and community hygiene (this latter being commonly thought of as sanitation). Hygiene is the science and art of establishing (or reestablishing) and preserving a high standard of physical and mental excellence; sanitation is the science and art of establishing and maintaining a livable environment. The first involves the care of the body and mind; the second involves the solutions of community problems.

The Sumerians and Babylonians developed elaborate sewage systems, had a weekly day of rest, built irrigation canals, had a calendar, mathematics, archives and libraries.

Ur was one of the largest of the Sumerian cities and may serve us as a model of other Sumerian cities. The houses in Ur consisted of

thirteen or fourteen rooms grouped around a central courtyard. "From the street the main door opened into a hall which usually had a small pool for washing the feet." This led into the courtyard which was paved with brick and was provided with pipe to drain away the rain water. Light entered through the doors and no windows were provided.

The Sumerians bathed frequently according to their surviving traditions. In the Sumerian epic of Gilgamesh, we find the hero stripping and bathing.

Babylonian life in general was made up of hard work, but there were times of rest and recreation; there were dancing and singing and music; there were games and there was sailing on the river; there were festivals and holidays. A weekly day of rest in Babylon, the successor of a similar rest day in Sumer and probably the precursor of the Hebrew Sabbath, established an elementary rhythm in man's activities by providing for a day of rest and recreation every seven days, and this constituted a measure of both physical and mental hygiene.

Like the Egyptians, the Babylonians were clean, purity being an important concept with them. Only the rich had bathtubs and employed mixtures of oil and potash (a crude soap) in bathing. Palaces of the rich in Babylon had bathrooms with asphalt floors and toilets that flushed the excreta away. Palaces and other larger buildings were fitted with regular sewers, vaulted brick conduits that caught the rain water, bath water, excreta and other refuse and drained it away.

The Babylonians washed their hands before meals, a thing that is seen among all peoples who eat with their fingers. They also poured water over their hands after meals.

While the better homes of Babylon had bathrooms, the working class took their baths in the canals or in water cisterns in the courtyards, occasionally varying the routine with vapor baths, in the manner of the Sythians, that of pouring water on very hot stones in a sealed room. They employed massage in connection with their baths and used terra-cotta instruments as scrapers (stirgils), which were commonly used in the ancient world.

Everybody except the very poor anointed the body and hair with oil after the bath. It is said that this was done to stifle the nits and parasites that were and now are so common in Mesopotamia. Perhaps the ashes employed in bathing also deprived the skin of its normal oily secretion, thus leaving the skin dry.

Although Tacitus credited the Germans with the invention of soap, archeologists find traces of what they call soap in Mesopotamia used as long ago as five thousand years. They are said to have produced a medicated soap composed of salt, cassia oil and powdered asafoetida. They probably had no idea that it was a medicated

substance; this is a modern interpretation. It is declared, however, that this "curious concoction" and various other "soaps" that followed it, were used for centuries as a ritualistic symbol rather than as a soap. This probably supplies us with a key to its use. It was a magic or ritualistic preparation and not a cleansing agent. It is even suggested that these soaps were used as drugs, an effort merely to push the medical practice back far beyond the time of its origin.

A crude form of "soap" was made by the Babylonians consisting of the ashes of rush, which was rich in potash or soda, oil and clay. They seem to have had both a homemade soap and one that was on sale generally. This soap was somewhat abrasive and had none of the detergent qualities of modern soaps. It is said that the ashes of the reed they used in making their soap was still used in laundering.

In Mesopotamia, little clothing was worn, except in cold weather. Laborers wore nothing more than a string belt or strong girdle. Women wore a rectangular piece of cloth draped in folds over the left shoulder, similar to the Roman toga, with sometimes a heavy bonnet, while reminiscences of primitive nudity survived in certain cults. It is characteristic of cults that they tend to preserve ancient practices long after they have ceased to be the general custom. The devout Aryan, for example, took care never to dirty flowing water, a probable survival of primitive practice.

Of great celebrity were the baths of the Assyrians, Medes, and Persians. To such a pitch of grandeur were they carried by the Persians that Alexander, himself, accustomed as he was to the voluptuous baths of Greece and Macedonia, was astonished at the luxury and magnificence of the baths of Darius.

The early Persians bathed as regularly as they took their meals. To the Persian religion popular writers, like Calder, give credit for bringing to medicine the cult of cleanliness, thus overlooking the historical fact that we are not indebted to medicine for the practices of cleanliness. Medicine never adopted cleanliness; it was forced upon the medical system. In addition to the regular bathing, Persian youths were given physical training. Indeed, in most ancient civilizations, physical training of youth was common.

Primitive man, so long as he lived in small groups and lived in no fixed abode had no difficulty about sewage disposal, but when he began to live in towns this element of sanitation became very important. Means of sewage disposal had to be developed and this was done early. It is thought that the sewage systems of the Canaanites, for example, probably preceded those of Crete by several centuries.

On the ruins of the Canaanite civilization, which they largely destroyed, the Israelites built their civilization. The Hebrews apparently gave scant attention to physical training, but devoted much attention to personal cleanliness. Their hygiene was inseparable from

their religion. Among the ancient Jews, and to a large extent among the orthodox Jews of today, dietary regulations were and are part and parcel of their religion. The *Book of Leviticus* contains many hygienic and sanitary regulations and rules. These deal with what were regarded as proper foods and their preparation, with clean and unclean objects, the hygiene of childbirth, and menstruation, the prevention of contagion, the isolation of infected sick, the disinfection of their property, even to the extent of scraping the walls of their house or tearing them down. Physicians came to Israel in the closing centuries of the nation, coming from other countries, probably principally from Greece, but this was after the origin of so-called "Hippocratic medicine." The Jews had some conception of what has been called "human contagion." When they are said to have been the first to recognize contagion, we must bear in mind that they had no such idea as that current today.

Hygiene, in its ultimate sense is constituted of the total pattern of life and has reference to the way in which an organism normally lives. Viewed in this light much of a people's hygiene is made up of its customary modes of living. Among the ancient Egyptians, for example, life was lived largely in the open air and sunshine, so that conscious attention to these elemental factors of hygiene was not required.

The sun-worshipping Egyptians did not regard the sun as merely the fierce all-pervading source of heat that drove men into shade at midday, but thought of the sun as also the gentle source of life in all created things. Their Hymn to Aten says:

Thou appearest beautifully on the horizon of heaven,
Thou living Aten, the beginning of life;
When thou art risen on the eastern horizon
Thou has filled every land with thy beauty.

It is a long hymn to the sun god, the giver of life. It is sobering to recall that there are men of science today who have not gotten beyond this concept of the ancient Egyptians. They regard the sun as the source of life.

It is interesting to note that, in spite of their many superstitions, the Egyptians regarded their country as salubrious, and took several excellent precautions to preserve their health. They selected their diet, were cleanly (bathing often), wore white linen garments, washed before meals, lived an active open-air life in the sun, rested each afternoon and retired to sleep early. The life of the rich in ancient Egypt is described as "a pleasant and gracious life," although for the slaves and free workers it was a hard lot. It is noteworthy that Herodotus was much impressed by the good health conditions he found in Egypt. That they took laxatives, wore amulets and charms and talismans with magic words on them is but part of their superstitions.

The Egyptians lived largely in the open air, the people frequently working, eating and sleeping outdoors. They employed the house to protect against the sun's rays during the summer heat and at the time of midday rest. This afternoon sleep was common throughout the ancient world in the tropics and during the summertime elsewhere.

Adult Egyptians wore little clothing. Neither Egyptian boys nor girls wore any clothes and they continued to run about naked until they were several years old. Egyptian children played games and indulged in athletic contests some of which are still with us today.

In Egypt, as everywhere else in the ancient world, the nights were devoted to sleeping. Outside the bed chamber there was little night life. The practice of retiring early and arising early was everywhere observed. Lighting facilities were meager and difficult to obtain. It was not possible to turn the night into day as we have done in modern times.

Sigerist says that "it is a general rule that the less clothing a people wears, the cleaner it keeps the body. The Egyptians were no exception to this rule, and rich and poor washed frequently, morning and evening and before every meal." They were also careful to regularly wash the vessels from which they ate and drank and washed their linen frequently. The Egyptian priests are said to have bathed and anointed themselves daily to "purify their ideals," even, for good measure, so it is said, bathing the graven images of their gods.

In the homes of the wealthier classes there were shower baths. Recall that the Egyptian princess who found the infant Moses among the reeds at the river's bank, had gone down to the river to bathe. The story is similar to an older legend about the finding of the infant Sargon in the same way, but it is of interest to us here as indicating that the princess had probably gone swimming. Certainly to take a bath, she was not under necessity to expose herself in this manner, as she could have bathed in some secluded spot in the domain of her father, the Pharaoh, or perhaps in the palace itself.

The Egyptians perfumed the oils with which they anointed themselves, but smearing the body with olive oil does not seem to have been too much practiced by the upper classes of ancient Egypt. In the Egyptian story of Sinuhe, the young Egyptian heir to the throne who fled in fear when he heard of the death of his father, and joined a band of Syrian nomads, we got the story that after a few years he returned to Egypt and he says: "And I was arrayed in the finest linen and anointed with the best oil. I slept on a bed, and gave up the sand to those who live there, and the olive oil to him that smearesh himself therewith." What oil other than olive oil was used? Flax oil was abundant in Egypt.

Crete (the Caphthoe of the Bible—the Philistines were also of Aegean origin and were an uncircumcised people) was one of the

oldest and most advanced of the ancient civilizations. The Minoans or Cretans were a long-headed type of humanity who preceded the Greeks. They, like the Egyptians, seem to have belonged to that slightly copper-colored race known as the Mediterranean. The warm Cretan sun as well as the Egyptian sun, may have accounted for the suntanned color of both peoples. The near nudity of the Cretans and Mycenaean provided ample opportunity for tanning. The Cretans are described as a peace-loving people but this description will fit all people in all parts of the world and in all ages of history. Man is normally a peaceable animal, and unless frenzied by warmongers, hates war.

The Cretans relied heavily upon sanitation and hygiene. Indeed, there is an abundance of evidence that they led simple, active outdoor lives, were clean, were exposed to the sun, understood the importance of rest and sleep and of emotional poise, and were frugal in their eating habits, also that they fasted when ill.

The very ancient Cretan myth tells us of Zeus being bathed by two watchful maidens who looked after him. As his mother had hidden him away from his father, Cronos, who would have devoured him, he was fed upon milk from a long-haired mountain goat and upon honey which was brought to him by pigeons. An eagle brought him nectar from the lavender mountain crocus. The absence of flesh from the diet of young Zeus is significant.

In Crete there were bathrooms and baths; they ate three daily meals, morning, midday and evening, washing their hands before eating. They drank wine, but never took it undiluted. They possessed an elaborate system of physical education and spent much of their time in the open.

The kings and queens of Crete passed their spare hours in gardens and spreading lawns. Their city was a beautiful city, where even the poor were better off than in other kingdoms. The summer palaces near Phaistos on Crete, were elaborate structures, with stone staircases and elaborate plumbing systems.

The Cretans paid great attention to sanitary measures and provided for drainage and disposal of waste products in their cities. No sanitary structures of the type found in Crete and elsewhere in Ageae are to be found in Greek cities of the Alexandrian period. Walker says that "it is now realized that the Minoan civilization, like many other ancient civilizations, was far more advanced than the archeologists of an older school believed it to be. It was particularly advanced in matters of Public Health. The drainage systems, water supply, bathing arrangements and methods of disposal of refuse uncovered in the excavation of Minoan cities are much superior to those which existed in the British Isles in the time of the Stuarts. It is likely therefore, that the Greeks, in the process of overrunning the Minoan cities in Eastern

Europe, in about the year 1,000 B.C.—Troy was one of the last of the Minoan strongholds—learned a great deal from the people whom they vanquished.”

J. C. Stobart says in his book *The Glory That Was Greece*: “The plumber will find a paradise in Cnossos. There are lavatories, sinks, sewers, and manholes. Let me quote Professor Burrows: ‘The main drain which had its sides coated with cement, was over three feet high, and nearly two feet broad, so that a man could easily move along it; and the smaller stone shafts that discharged into it are still in position. Further north we have preserved for us some of the terracotta pipes that served for connections. Each of them was about two-and-one-half feet long, with a diameter that was about six inches at the broad end and narrowed to less than four inches at the mouth, where it fitted into the broad end of the next pipe. Jamming was carefully prevented by a stop-ridge that ran round the outside of each narrow end a few inches from the mouth, while the inside of the butt, or broader end, was provided with a raised collar that enabled it to bear the pressure of the next pipe’s stop-ridge and gave an extra hold for the cement that bound the two ends together.’ Let no cultivated reader despise these details. There is no truer sign of civilization and culture than good sanitation. It goes with refined senses and orderly habits. A good drain implies as much as a beautiful statue. And let it be remembered that the world did not reach the Minoan standard of cleanliness again until the great sanitary movement of the late nineteenth century.”

Describing a building at Tiryns, Stobart says: “There is an elaborate bathroom, with drainpipes and water-supply hot and cold.”

Interesting as it might prove to know with what diseases the Cretans and the Mycenaean Greeks suffered and what means they employed with which to care for their sick, no written records of these matters exist and, as Sigerist so truly remarks, “archeology merely tells us that the palaces of Mycenae, like those of Cnossus, had bathrooms, toilets and a drainage system.” This is to say, we do have evidence that these people did rely upon hygiene and sanitation. The royal palace at Cnossus was fitted with bathrooms and drainage similar to those found in Egyptian and Mesopotamian palaces of the period.

Unlike the other peoples of the period, the Cretans were not afraid of the dead and manifested no fear of ghosts. This probably indicated that their religion was not of the fear-instilling type and may be assumed to have been the foundation for the relative absence of fear from the Greek religion of a subsequent period.

Going now to the Indus Valley civilization of India, which was contemporary with that of Mesopotamia, Egypt and Crete, the medical historian Sigerist is on firm ground when he says of the “public health

facilities" of Mohenjo Daro, which was "probably the oldest planned city of which we know," that they "were superior to those of any other ancient city of the Orient. Almost all houses had bathrooms. Bathrooms were not uncommon in Egypt, Mesopotamia, and Crete, but there we find them only in palaces or in homes of the rich. The fact that they were so numerous in the Indus cities perhaps means that they had not only a hygienic but also a ritual purpose, as they still have in India today."

"The bathrooms were built near the wall that faced the street, and the water was drained through pipes into covered sewers that ran under the street ... in several houses latrines have been found, water closets, with a drainage system similar to that of the bathrooms." In one monumental building of this city "eight small bathrooms were located in the northern end of the building."

Sigerist says that "the sewage system of Mohenjo Daro is truly impressive." He refers to the "elaborate public health system of the cities," but since "we have no written archeological records" until after the Aryan invasion some five hundred years after the destruction of the Indus Valley civilization, he is forced to guess that they had drugs and physicians. The evidence reveals that the people of the Indus Valley civilization were cleanly and had adequate sanitary systems; it provides no hint of a medical system. Mankind relied upon hygiene both to preserve health and to restore health before it was shunted into false ways by the medical profession.

The people of the Indus Valley civilization wore simple clothing made of cotton spun into cloth by the women; a short skirt with ornamental belt was worn by women.

The Indus Valley civilization presents us with colonnaded buildings, baths, granaries, mills and communal ovens. The evidence shows that the people of the Indus Valley civilization placed great emphasis on bathing. At Mohenjo Daro there was an impressive great bath, which may have been communal. The homes of the wealthy were equipped with elaborate bathrooms; a complex drainage system under the streets was connected with the drains of the homes. It is said that there is little room for doubt that the general standard of health and of sanitation was remarkably high. The municipal sewage system and the presence of bathtubs, a fixed latrine seat draining into a receptacle in the street, in some of the houses of Harappa and Mohenjo Daro, testify to the remarkable thinking of the planners of these prehistoric cities.

At Mohenjo Daro the houses contained bathrooms and latrines, often on two floors. Earthenware drains encased in brick carried sewage away from the houses and numerous inspection holes indicate that they were regularly cleaned. The drains and bathing establishments of Mohenjo Daro are one of the wonders of archeology. Of such public works as cisterns, sewers, etc., in the Indus Valley,

archeologists inform us that they were "of a particularly high standard."

Some speculators, basing their conjecture on a few obscure passages in the older Vedic literature, think that the Indus Valley civilization was destroyed somewhere between 1500 and 800 B.C. by Indo-European invaders.

Our knowledge of life in Greece is more full and complete than is our knowledge of life in Sumer, Babylon and most of the other nations of antiquity. The Greeks borrowed liberally from their neighbors so that in studying the story of Greece we learn much of preceding and contemporaneous civilizations.

The Greek story begins long before its recorded history. Homer's heroes made efforts to preserve their health and fitness. Frugal meals, although they enjoyed banquets on festive occasions, wine mixed with water (drunkenness being frowned upon), a variety of exercises, games, sports and contests of strength and skill, commonly in the open air, cleanliness (besides their bathrooms at home, they bathed while at war), scanty clothing that permitted free access of sun and air to their bodies—these are but some of the elements of what was a healthful mode of life.

Writing of Greece Sigerist says that, "Physical education, athletics, and sports were at all times powerful measures in the promotion of health, in the development of a concept of positive health and a jovial attitude toward life. It is the educational ideal much more than medical considerations that determined the status of physical education—in Athens, for instance—large-scale measures of public health, on the other hand, the building of aqueducts, the drainage of swamps, housing projects for large groups of people, can be expected only where there was a state power strong enough to carry out such measures." He fails, however, to mention that the educational ideals, the concept of a positive ideal of health and the sanitary projects all came into existence in advance of the medical profession.

Pausanias says that there was a statue of Hygeia (daughter of Asklepius) on the Acropolis and another of Athena, "which they also name Hygeia." This would indicate that the Athenians had a goddess of health. In Sparta there was a temple dedicated to Athena Ophthalmitis, goddess of the eye. According to Spartan tradition, this temple had been founded by Lycurgus himself.

The Greeks taught a love of beauty and an unashamed delight of the body. The Greeks and Romans knew the importance of exercise before there was a medical profession among them. It is not without significance, although it may not be true, that Asklepius has been called the *Father of Gymnastics*. Pythagoras stressed the importance of cleanliness, exercise and proper food long before the time of Hippocrates.

Athenian children played nude as did children everywhere in Greece. Jumping and wrestling were favorite sports among the young Greeks. Writers often speak of the "hard sunburnt body of the Free Athenian." They also contrast it with the soft, white body of the Athenian who lived indoors and took little exercise. After Achilles had honored his dead friend, Patroclus, at Troy, games were held. The Greeks engaged in running, boxing, dueling, spear throwing, chariot racing, archery, wrestling and throwing the javelin.

Women and girls took part in athletic activities in Greece from earliest time. When Nausica, whom Athena had promoted in a dream to bring the family linen to the mouth of the river to wash, had arrived with her girls, she gave her a golden bottle of olive oil for softening the girls' bodies after bathing. After the wash had been completed and the clothes had been spread along the beach to dry, the girls took a dip themselves, and anointed with golden oil, ate lunch beside the river. "While the bright burning sun dried out their linen, and Princess and maids delighted in the feast" they enjoyed exercise on the river's bank. Then putting off their veils, they ran and passed a ball to a rhythmic beat; Nausica flashing first with her white arms.

In Greece, the work day was long but there was the inevitable siesta that gave the worker, including the slave, a break and a rest. The siesta was an almost universal custom in ancient times and, in most of the world, has survived down to the present. Our industrial civilization is slowly destroying this healthful practice and has substituted for it the modern unhealthful "coffee break."

In Greece, the daily bath was the custom. Babies were washed at birth and then swaddled. Traditions of bathing by the Greeks reach far back into prehistory. The *Iliad* recounts that Ulysses and Diomedes, upon returning from battle, went at once to the sea to wash off the sweat and to cool off, after which they had a bath in a tub and were anointed with oil. When Odysseus was received by Queen Arete and her king, he made a stir among the people of the little kingdom by an enormous discus-throw. "But the things," the king pointed out, "in which we take perennial delight are the feast, the lyre, the dance, clean linen in plenty, a hot bath and our beds." When Agamemnon returned home from his ten years' siege of Troy, his unfaithful wife, Clytemnestra, had a bath prepared for him. Indeed, it was in the bath that she treacherously murdered him.

Sigerist says that the "Greek word for diet had a much broader meaning than we give it today. By diet, the Greeks meant a man's entire mode of living, the relations between sleep and being awake, between exercise and rest, and of course, also the choice of food, the quantity to be consumed, evacuations, and all other factors that constitute a man's life and must be under control if the individual is to be not only healthy but also strong and beautiful." He adds that as it

was the work of the physical trainers to supervise the diet of the Greeks, "These trainers were great experts in matters of hygiene." Cumston confirms Sigerist, saying that the Greek word, translated *regimen*, "has not the limited sense that it has in English. Besides diet, it includes baths, massage, and gymnastics, all of which were in high repute, and might perhaps be well translated by 'treatment'." His effort to substitute the term "treatment" for the older terms *regimen* and *dietetics*, is an effort to conceal the fact that it involved not treatment but a regulation of the mode of life of the individual—well or sick (bionomy).

The Greek term would, perhaps, be better translated by the term hygiene, as we employ this word today. It was a way of life, and was ordered by the Greeks for a long period before there was a physician to meddle with it by the employment of his drugs—poisons. The curse of the world has been the effort of the medical profession to substitute drugs for the correct way of life (orthobionomy). They have sought to supplant good habits of living with their poisons. Instead of correcting the bad mental and physical habits of their patients and substituting good habits for them, they have condoned and often advised the continuance of the bad habits and advised that the sufferer take a pill or a potion, a shot in the arm, or have his organs removed.

When it is stated by medical historians that Rome's contribution to medicine lay in the realm of hygiene and public health, we witness another effort of the medical historian to make the term medicine cover the earth as the waters cover the sea. The Romans were justifiably suspicious of the physicians as everyone else seems to have been. Long before the time of Hippocrates, they had inaugurated sanitary measures that had more value to both individual and public health than all the drugs ever used and all the physicians that ever lived. They kept the streets of their cities clean, attended to the water supply, brought water to Rome through fourteen great aqueducts, established great public baths throughout the empire, were frugal in their eating habits, were active in outdoor work and wore scanty clothing. They were basically vegetarian. The Romans took only a glass of water in the morning, cold meat and fruit at midday; the main meal was taken after the day's work was completed.

No other civilization erected the buildings for bathing, exercise, recreation and amusement that even remotely compared with those of Imperial Rome. One of the most famous of these, the Baths of Caracalla in Rome, included an area of more than twenty acres, and was fitted with reading rooms, auditoria, running tracks, covered walks and planted gardens, surrounding a single unified building which alone covered six acres. The halls of this central building were so vast that thousands at a time could wander through them; there were rooms with a vaulted ceiling seventy feet above the floor; an enclosed swimming

pool two hundred feet long; and a steam room half as large as the Pantheon. Besides acres of mosaic flooring and thousands of costly marble veneering, there were hundreds of bronze and marble statues. Large as was this recreation center, it was but one of seven such centers in Rome. In every Province of the Empire, in Germany, England, France, Spain, North Africa, Asia Minor, there were similar but somewhat smaller baths. The bad feature, of the larger baths, at least, was that the slaves who fired the furnaces that warmed them and heated the water, lived a mole-like existence underground.

The Cloaca Maxima was constructed in the earliest days of Rome and not after the rise of the medical profession. The drainage systems of other Roman cities were also pre-Hippocratic feats of engineering; even in England, they established drainage systems that the English permitted to deteriorate and did not revive until well within the eighteenth century.

The Romans made their public baths beautiful architectural monuments and bathing became a national passion. In the Roman towns were numerous baths, the elaborate and efficient heating systems of which reveal how well the ancient builders understood the principles of heating by hot air. In Rome the public baths were patronized by most people. Some of the wealthier Romans had baths in their own homes, although they also patronized the public baths.

A people's bathing practices may serve as an index to their general system of hygiene. From Calidonia on the west to Cathay and Nippon on the east and to India and Cambodia on the south, mankind bathed regularly and often. The practice of bathing in running water is widespread in India and this is probably man's original way of bathing. The Hindus also scrupulously cleanse their teeth.

The ancient Cambodians bathed each morning and cleansed their teeth with little pieces of poplar wood. They made frequent use of the bath. The women bathed in the rivers and are described by Chinese travelers as having "no shame about leaving their clothes on the river bank and going into the water." As they gathered in numbers for these baths, the baths are described as events of hilarity. They must have sunbathed while taking their baths in the river. Like Adam and Eve in the ancient garden, they were naked and unashamed. It may truly be said, to paraphrase a famous American, that God must like nudity, he made so much of it.

In China a big tub of hot water was used in which to bathe. The children were bathed, the mother washed herself thoroughly daily, and the Chinese never sat down to a meal without first having bathed. The Chinese, like the Japanese, are fond of the hot bath. Even the Chinese junks of a few hundred years ago had private baths aboard for members of the families of the wealthy. Japanese homes are kept spotlessly clean, but Japanese people are even more scrupulous about

bodily cleanliness. Every home contains a simple bathroom.

Throughout the long course of prehistory, through the whole of the period of protohistory, and right down to about the time of Alexander the Great, mankind got along without the doubtful services of physicians. For a considerable time during this long period, the sick relied upon *theurgy* (religion) and *thaumaturgy* (magic) and took no so-called internal medication. In speaking of the patriarchal age, Dr. Trall said of the "fine old boys of the Hygiene age" that they "took no calomel or blue pill, nor prostrating cathartics, and there is no mention of bleeding or blistering." The records are admittedly fragmentary, but sufficiently full to make it quite certain that no drugging was practiced anywhere in the world prior to the Hippocratic era.

Mankind seems to have gotten along very well without physicians and drugs. Homer mentions what appears to have been a minor epidemic among the Greek soldiers at Troy. As the Greeks had no physicians, no vaccines and no serums, they met the problems in the time-honored way. They sacrificed a handful of bullocks to Apollo. Homer does not mention any deaths from the epidemic. From this it may logically be inferred that the sacrifices were effective. Nearly 2,000 years elapsed after the origin of the drugging practice before armies carried physicians with them and before ships carried physicians on their voyages. The medical practice did not circle the globe overnight.

From the standpoint of the well-being and happiness of mankind it is important for us to understand how mankind managed to survive through this long period of time without the *saving potencies* of the physician's drugs. Only a solution of the problem that squares with the principles that underlie the phenomena of life can gain universal acceptance. Certainly, the solutions that have been offered from the laboratories of the world have not squared with biological principles. While the most startling aspect of this matter is yet to come, we can formulate our solution only in general terms, allowing individual and temporary deviations from the general pattern of pre-Hippocratic care, but allowing no adventitious elements to enter our explanation. Truly, when we have fully grasped the profound significance of the picture this presents, an extraordinary climactic lyrical spasm will emit from the throat of the world.

A WORLD THAT WAS

Chapter 6

Troy, Knossus, Mycenae, Sparta, Gournia, Therasia and Phaistos, were large prehistoric Aegean cities. Gournia had its foundries for the manufacture of bronze, Therasia its oil refineries and Phaistos its potteries. These factories were modern in every sense of the word except that there was no power-driven machinery. The houses of the poorest quarters of Gournia were substantially built and commodious, while literacy seems to have been almost universal among the Aegeans. Ur, Lagash and numerous other cities, especially those that flourished in northern Iraq, Anatolia and on the Western Plateau of Iran, were highly civilized prehistoric communities. Most of these cities we know only as the result of archeological excavations or as places mentioned in the Bible, Homer and other ancient literature.

Troy, Knossus and Mycenae we know from Greek legends, but all three of these cities have been explored by archeologists. Sparta became historical. Knossus on Crete has been the subject of much archeological exploration. Babylon (Sumeria, Na-Dingir-Ra) was inhabited in prehistoric times, as is testified by flint implements and other objects discovered there. The Akkadian story of creation states that the city was built "in the beginning of time," a statement that may be closer to the truth than our archeologists and anthropologists are disposed to admit. Wedded to the Darwinian myth and armed with phoney time tables, they delight in dealing with astronomical figures when discussing the "antiquity of man." The longer man has been on the earth the better for my present thesis, but I have doubts about the validity of these "time tables." Whatever else may be true, we may rightly regard these peoples as having existed on the borderline between prehistory and history.

If, in like manner, we may think of the Achaeans, who were contemporaneous with the Myceanaens, as existing on the borderline between history and prehistory, we may think of them and their ways of life as affording us a dependable clue to the ways of life of prehistoric man. If Homer correctly reports the ideas and practices of the Achaeans of the time of the Trojan war, his descriptions of their ways of life and their ways of caring for the sick coincide closely with what we have pictured as flowing naturally from the instinctive demands of life.

They lived in houses in small communities and in larger cities, were active in the sun and air, were diligent in securing adequate rest and sleep, bathed regularly and often, understood the importance of emotional poise, fasted when ill, loved and cared for their children, and

were hospitable. They had learned to eat animal foods and to make and drink wine. They indulged in games and seemed to have exercised much. As they wore few clothes, they received an abundance of sunshine directly on their bodies. So far as we can tell from Homer's accounts, both they and their women were a hardy and robust people.

Homer speaks with much enthusiasm of the value of diet, exercise, games, hot and cold baths, fresh air, sunshine, music and song for the welfare both of the well and the sick. He favors hygiene and sanitation as preventives of disease and surgery in dealing with wounds; he favors dietetics and advises fasting, cleanliness and purity of body and mind. He distinguishes between healthful and unhealthful things and frequently refers to bathing as a means of purifying oneself, while the wives of his heroes are pictured as regularly preparing baths for them. He regards bathing as "refreshing" and as promoting recovery from fatigue. All of this is in striking contrast with his pictures of the employment of herbal poisons as charms.

Let us try to get a picture of the way of life of prehistoric man and early historic man, as the life of the latter was but a continuation of the life of the former. For history was not a new beginning. It is a continuation of prehistory and contains much of prehistory. There was no sudden break with the past when history dawned; the two periods represent a continuum. When man first came upon the stage of history, he had a long, unrecorded past, which he brought along with him into history. By studying man at the dawn of history we may learn much about man in prehistory. In our efforts to learn something of our prehistoric ancestors, we are not reduced to the necessity of relying on the wild guesses of those scientists who reconstruct whole cultures and the ways of life of forgotten peoples from a thigh bone, an arrow head and a fragment of pottery. Prehistory has left much more of itself than such reconstructions would imply. But we must approach such a study with a due degree of humility. The conscious superiority of modern man over our ancient ancestors, our colossal conceit that prompts us to treat these ancient peoples as children and our contempt for the "primitive mind," leads us to regard ourselves as the true norm, the pattern of humanity. In our scoffing arrogance, we think of our deplorable deficiency as a measure of the vigor of our ancient prototypes. We mistake our accumulation of mechanical gadgets and technical know how for progress in mentality and in human value.

Let us commence with the Aegeans whose civilization was one of the oldest if not the oldest of which we have any knowledge. Apparently having originated on the island of Crete, it spread to all the Aegean islands and established colonies on the mainland of Greece and Asia Minor. As early as 3,000 B.C., the inhabitants of Crete made the transition from the Neolithic stage of culture to the age of metals and probably to the age of writing. Aegean women enjoyed complete

equality with men. The Aegeans are specially noted for the fitness and exquisiteness of their art, their peaceful disposition and their freedom in experimentation. There seems to be no doubt that their civilization was the cornerstone of subsequent Achaean and Dorian civilizations. But they are prehistoric civilizations, hence they give us some idea of the dignity and triumphs of our prehistoric ancestors.

Remains of Neolithic and early metal-age cultures have been unearthed both in Hindustan and Deccan in India that are dated as early as 3,250 B.C., and which reached their peak about 2,800 to 2,500 B.C. This civilization covered an area in the Indus Valley about as large as Italy, perhaps larger. It was essentially an urban culture, with a cosmopolitan society, bustling enterprises and much trade with the outside. This early culture, which was definitely prehistoric, has a few facts to present to us about prehistoric man. This culture disappeared about 2,200 B.C. from causes that are only guessed at. The evidence points to the fact that women in this culture enjoyed almost equal freedom with men.

The Aegean and Achaean cultures and that of Vedic India were "primitive" for a long period. The cultures of Greece and the Aegean islands were all essentially the same and were "primitive" for a long period so that what the epic poems of Homer present us with is a primitive way of life among a people who regarded man as the most important creature in the universe and who refused to submit to the dictation of priests or despots and who refused to humble themselves before their gods. They thought of life as worth living for its own sake and because of their intellectual freedom, made greater progress in the arts and sciences than the other nations of antiquity.

In pursuing our studies of the life of prehistoric man, let us begin with the eating practices of these early cultures, as these are revealed in their agriculture and in their myths. The ancient legend, common to most old civilizations, as expressed in Genesis, where the gods are pictured as expelling mankind from the Garden of Delight, lest he put forth his hand and partake of the fruit of the Tree of Life and live forever, indicates the importance to life and health that was attached to man's normal food. Its loss was tragic. Hesiod probably expresses a broader view when he says: "for the gods keep hidden from me the means of life."

We naturally assume the first men were food gatherers. That they cultivated the soil or hunted and fished seems highly improbable. They gathered the produce of the trees and vines, perhaps also of herbs, eating them as they gathered them. It seems hardly likely that they stored foods from the outset. Indeed, if they lived in a climate far different from that which now prevails on the earth, there may have been no need for storing food. When, at some subsequent period, man learned to store food for later use, he could only have stored those

foodstuffs, such as acorns and other nuts, grains, legumes, etc., that would keep for long periods. Certain fruits, such as the squash, pumpkin, apple, date, etc., may have been stored for short periods. Later when he had learned to dry fruits and vegetables and store them in this manner, he was able to keep them for longer periods. Our American Indians dried flesh to keep it for winter use. Certain tribes of California dried great quantities of grasshoppers and stored these for the winter.

Man's period as a food-gatherer is supposed to have lasted through an enormous stretch of time before he learned to cultivate the soil, thus becoming a food-producer. Neolithic man was a food-producer, cultivating grains, fruits and vegetables and building elaborate irrigation systems. As a food-producer he had a more dependable source of food supply than he had as a food-gatherer. It is probable that man became a food producer far earlier than anthropologists think. We may get some clue, not only to the kinds of foods he produced during the prehistoric period, but also to the kinds of foods he ate at this time, by noticing his productions. That he had already become a flesh-eater at the time his agriculture blossomed is undoubted, but he does not seem to have made flesh foods the hub of his diet as do his modern descendants. The amount of flesh food eaten by various peoples varied according to circumstances, but plant foods seem to have predominated in the diet everywhere.

Let us dispose of flesh-eating first. Rarely did Greeks eat fish and other flesh. Indeed, in Homer, fish are considered inferior food. In general, among the Greeks, flesh was eaten only as a sacrifice. Homer pictures the Achaeans eating sacrificed flesh in great quantity and eating, not only the outer flesh, but the "inner parts" of the sacrificed animals. How often they sacrificed is not easy to guess, but sacrifices seem to have been frequent and to have amounted to veritable thanksgiving dinners, with the sacrificed flesh eaten apparently alone except for wine. If Homer is a good reporter, the Achaeans not only frequently sacrificed the thighs of bulls to their gods, eating the sacrificed flesh, but they were great drinkers of wine. Homer describes a feast given in the home of Menelaus, king of Sparta, some years after his return from Troy, in which tumblers "whirled through the midst" of the guests, while a minstrel sang and played the lyre. Neither the wine nor the tumblers nor the lyre could have been primitive, but the fact that the flesh-eating was so tied up with religion, not alone with the Greeks, but with the Egyptians, Israelites, and other ancient peoples, points to the possibility that flesh eating grew out of the system of magic.

The feasts described in Homer are those of the rulers and owning class and probably do not represent the eating habits of the mass of the population, who could not have had the abundance of wine

and probably did not have the abundance of cattle that would have been required to indulge in such eating practices. It is noteworthy that the gods of the Greeks and Romans fed on nectar and ambrosia rather than upon flesh. Man has, at times, eaten *angel's food*, but the Greeks were the only people who fed their gods on such foods. These foods of the gods did not allow for much variety nor did they permit the complicated mixtures, such as are seen on the tables, even of the poor, in America today. Simplicity characterized their meals as it did those of the Greeks themselves. Indeed, their feasts, as described by Homer, were models of simplicity in contrast with modern everyday meals.

Flesh eating among the Aegeans, Egyptians, Greeks, Semitic peoples, Indo-Aryans of the Vedic period and other peoples of antiquity was so mixed and mingled with their religious ceremonials as to suggest that flesh eating may have had its origin in magic. The offering of sacrifices, more often than otherwise, animal, sacrifices was a prominent feature in most ancient religions. Commonly the sacrificed animal was eaten and this sacrificial flesh seems to have constituted the greater part, if not the whole, of the flesh diet of these peoples. The Indo-Aryans burned the sacrificial animal on the altar and ate the flesh thereof. Among the Chinese, on the other hand, animal sacrifices seem to have been rare, although hunting and herding contributed to the family food supply. The flesh of the dog and hog (pork) were very popular items of diet among the early Chinese. They had domesticated the dog, hog, sheep, ox, horse, chicken, water buffalo, monkey and, probably, the elephant.

Cannibalism, often practiced by many peoples, including the Aztecs of Mexico, was almost always part of a religious ceremonial. If we are to class the eating of the testicles of dead enemy soldiers as cannibalism, we must also class blood transfusing as cannibalism. Cannibalism is a variety of flesh eating that certainly could have formed no part of the primate diet. Greek mythology strongly suggests that the prehistoric Greeks practiced cannibalism. Indeed few races and tribes have escaped it during the course of their history, but we have no justification for supposing that cannibalism was ever a universal practice among mankind or that it was ever anything more than a sporadic practice in most tribes. Certain tribes of Indians inhabiting the coastal area of Texas ate human flesh as a regular article of diet, but they were regarded as degraded specimens by all their neighbors.

Cereals seem to have been among the first plants man cultivated when he developed agriculture. But they were by no means the whole of his agricultural output. Neolithic man raised vegetables and numerous fruits. In the New World, Native Americans, in a somewhat primitive state, raised maize (corn), beans, squash, pumpkins, both sweet and "Irish" potatoes, tomatoes and a variety of other vegetables. Perhaps we do not go far astray if we assume that,

when man began to raise fruits and vegetables, he cultivated those foods that he had previously been accustomed to eating. It may not be amiss to assume, also, that he raised cereals, at first at least, as food for his domesticated animals.

Anthropologists say that the exact spot where agriculture originated is unknown, but they point out that among the first products he cultivated were cereals. Neolithic man was a food-producer, cultivating millet, vegetables and numerous fruits. Flax was cultivated in the Old World for its textile fiber. In the New World, maize was almost the only cereal crop, but numerous other food-plants were cultivated. Nuts, berries, acorns, and various wild fruits were gathered by the Amerinds.

The Egyptian economy rested upon agriculture, which was highly diversified, the soil yielding excellent crops of wheat, barley, millet, vegetables and fruits of various kinds, flax and cotton. The Sumerians were excellent farmers raising amazing crops of cereals and sub-tropical fruits. The Aegeans cultivated numbers of fruits, including the olive from which they extracted the oil, vegetables and grains. The diet of the Greeks and Romans was largely grain foods. The common people of the ancient Romans subsisted chiefly on unleavened bread dipped in milk, this supplemented with onions, peas and turnips. Only those near the sea had fish and only farmers had flesh, consisting chiefly of goat, pork and lamb. In the first century B.C. such oriental fruits as cherries, peaches, and apricots were introduced into the Roman diet. In the early Vedic period the Indo-Aryans raised barley, vegetables and fruits and ploughed their land with wooden ploughs drawn by oxen. The principal crops of the ancient Chinese, who have always been primarily a nation of farmers, were wheat, millet, rice and vegetables. Agriculture, herding and cattle stealing were the chief occupations of the Achaeans; even the Greek kings farmed for a living. The early Romans were also agriculturists. As the institutions of a people in their prime are generally but modifications of forms which have survived from their early days, so the agricultural pursuits of a people at the dawn of their history are but survivals of similar activities in their prehistory.

Diodorus Siculus wrote that "the whole manner of life in Egypt is so evenly ordered that it would appear as though it had been arranged according to the rules of health by a learned physician, rather than by a lawgiver." The only fault I find with this statement is the implication that "learned physicians" were ever capable of ordering the whole manner of life according to the rules of health. Never in all of their history have physicians studied the rules of health. Disease is their specialty, *cures* their stock-in-trade. The lawgivers have never been physicians and it was the lawgivers who ordered the lives of the peoples of the past.

The fact is that man's life has never been chaotic, but has always been well-ordered, vacillating around the instinctive norms of behavior and at all times ordered in a way to supply the basic needs of living. Whatever of disorder has been seen has resulted from the introduction, largely by the shaman, the priest, the physician, and the trader (using the term trader in a very broad and inclusive sense), into man's life, of adventitious and foreign elements. Modern life is probably more chaotic than man's life has been at any previous period of his existence.

The ancient Egyptians objected to formal exercise, saying that if this is needed there is something wrong with the way of life. Perhaps they still remembered the active life of their prehistoric forebears. Formal exercise is needful only where the life of a people fails to provide the requisite all-round exercise. Calisthenics, gymnastics, weight training, etc., are substitutes for the normal ways of life that were followed by man at an earlier period.

The Aegeans were devoted to gymnastics and athletics, delighting in sports and games of every description—chess, dancing, boxing and running matches rivaling each other for popular attention. Archeological discoveries at Cnossus reveal that the people of Crete had a well developed system of gymnastics and that exercise and bathing formed a part of their daily life. I must remind my readers that this was in the prehistoric period and that it was long before there was a physician in the world, hence the gymnastic life of these people could not have grown out of medicine. Aegean women enjoyed complete equality with men and took part in the games and other athletic activities.

Among the Indians of the Indus-valley civilization in the Vedic age, singing, dancing, feasting, carousing and feats of strength were typical features of a society that was vigorous and uninhibited. Here, also, women enjoyed an almost equal freedom with men.

Among the Achaeans, as among the later Greeks, athletics, gymnastics and other forms of exercise held a prominent place in the lives of the people, women indulging almost as freely as men. Women certainly held a more exalted position in prehistory and in the earlier centuries of Pagan civilization than she held in later ages in Europe and in America until quite recently and a much higher position than she holds in so-called primitive tribes of the living present. Indeed, distinguished women played a greater part in human history in the remote past than they do today and outstanding women were deified. How modern in all respects were the responses of those intelligent, integrated, thoughtful, gay, giddy and unpredictable women of Homer—Helen, Penelope, Nausicus, Chryseis, Briseis, Hecuba, Andromache, Iocasta and others! They did not behave like repressed and enslaved females!

I have stressed the physical activities of men. It is important that we stress the activities of women. Achaean girls and women led free, natural and largely open-air lives and there is much evidence that they were athletic, even often trained for special athletic work. We may begin with a consideration of the Greek myth of Atalanta, who was not only a great huntress, but a great athlete. She wrestled with and defeated no less a hero than young Pelus, who later became the father of Achilles, and she was so fleet of foot that no man could outrun her. Her ultimate defeat, in a race with a man, was achieved, not by the fleetness of her competitor, but by trickery. I think that we may safely say with Professor Chas. Seltman, Litt. D., of Cambridge, that the telling and re-telling of this story, which was so popular in Greece, was done because Atalanta was a symbol of an aspect of ancient Greek life. She lived before the Trojan war and her legend must be interpreted to mean that there were female athletes at the time who were outstanding in their accomplishments. Professor Seltman says in his *Women of Antiquity*, that a people "only evolve, embroider, and recite legends about an imaginary athlete heroine because their civilization affords some scope for young females to be athletes. No medieval maiden ever stripped to wrestle with a troubadour; no virgin martyr ever raced in the Hippodrome against a saintly deacon; no houri ever left a harem to hunt wild boar on foot. The answer is 'No scope, no legend.' But where there is a legend there is, somewhere, scope."

Without degrading Atalanta to the status of a mere imaginary athlete, I suggest that the existence and popularity of the legends about her are memories of a time when women athletes were more common, perhaps, than they were in classical Greece. We know that at a much later time at Olympia, the greatest athletic center of the ancient world, provisions were made for athletic contests between women and girls. Although historians have built for us a myth (a false one) that Athenian women were secluded like Oriental women, sculptured scenes of Athenian girls swimming indicate that they did indulge in athletic pastimes. They are known to have attended dancing schools and were trained by dancing teachers, especially in a kind of ballet dancing. Nudity among them was more common in Athens than our foolish historians have permitted us to know. Wives and daughters did not lead the secluded lives we have so long been told they did. Hetairae wore their hair long—were free women; slave women, like female industrial slaves of our era, wore short hair.

We know that children in Egypt went naked, played naked in the streets and attended the schools in a state of nudity, while Egyptian women wore transparent garments that failed to hide their bodies. In Sparta small children usually ran naked in the sun and air; girls had their own way, enjoying the same youthful freedom within the social frame-work as did the boys. Plutarch tells us that custom decreed that

Spartan girls should exercise themselves in races, wrestling, throwing the quoit, casting the javelin and that they appeared naked in the processions and choral dances in the presence of young men, yet he tells us that there was no wantonness in their nakedness. It was simply part of their way of life and was part of their health program. Their bodies were tanned and healthy.

In his *Republic*, Plato indicates that, not only the Spartans, but the Cretans exercised in the nude. It would seem that he is referring to women exercising naked, for he has Socrates discussing the subject of women exercising in the nude in the gymnasium, a thing that the men of Athens had long done. The Greek colonies (chiefly Achaean Greeks), as well as the Etruscans of Italy, seem to have been more Sparta-like in their way of life than the other Greeks of the mainland. Of the Etruscans we are told by Athenaeus, that "the women take very great care of their bodies and often exercise nude with the men." It is significant that the beauty of Tuscan women was renowned. The athletic co-education of the Spartans, which was famous, was also carried out on the large island of Chios, where Athenaeus says: "It is delightful just to walk to the gymnasia and running tracks to see the young men wrestling with the young girls, who are also naked." It was not until the triumph of Christianity (a Christianity that rejected the doctrines of Jesus) that cleanliness and nakedness began to be regarded as repulsive and indecent.

Discussing nudity and the mingling of the sexes in the nude naturally brings us to the subject of sex. Many anthropologists struggle valiantly to provide a primitive promiscuity for man and eagerly seize upon the slightest shred of "evidence" that may be, by the most torturous interpretations, made to support this thesis. Nowhere in the entire animal kingdom is it possible to find a promiscuity as absolute and uninhibited as they paint for our primitive ancestors. Primitive men cared less for their mates, in the view of these anthropologists, than do the male anthropoids, and freely permitted access to them by any male whose urges and fancies turned in the direction of a man's mate. No male anthropoid permits another male to approach his female without a fight. I am inclined to the view that, with these anthropologists, most of whom advocate a revival of promiscuity, the wish is father to the thought.

In the Heroic Age of Greece, monogamy was the universal practice, although extra marital relations were not frowned upon by either party. There is strong evidence that the Achaean Greeks were not acquainted with homosexuality. Prostitution, we know, had its origin in religion, which means that it evolved rather late in man's history. At a much later date, prostitution and homosexuality were absent in Sparta, although the demand for marital fidelity was rather weak.

Not only did our forefathers sleep, perhaps even more than we do, but they had definite ideas about the value of sleep. The recuperative office of rest and sleep receives strong emphasis in the Homeric poems. Homer stresses the office of sleep in relieving pain and fatigue: "Athena shed sleep upon his eyes, that it might enfold his lids and speedily free him from the toilsome weariness;" "Athena cast sweet sleep upon her eyelids" to relieve her from every fatigue, worry, distress and pain. He speaks of "much enduring godly Odysseus from his many toils in sleep resting and recovering from his weariness." Again, "when sleep seized him, loosening the cares of his heart, being shed in sweetness round about him, for sore weary were his glorious limbs." To quote all that Homer has to say about the restorative office of sleep would be to unduly prolong this chapter. This will suffice to reveal that its wholesome and recuperative character was well understood.

Temperance was taught by the religious leaders and philosophers long before there was even the rudiments of a medical profession. Exhortations to temperance are numerous in the Bible. A Magian maxim says: "Temperance is the strength of the mind; man is dead in the intoxication of wine; man is not in safety, except under the buckler of wisdom." The Greeks were not teetotalers, but they did manage to follow more or less their rule of "moderation in all things," while, contrasted with us, they had few poison-vices.

There are many indications in the most ancient literature that has survived that man, at a very remote period, understood the importance of the emotions; that he had some understanding of the evil effects of certain emotions and of the wholesome effects of other emotions. Many passages in the Bible admonishing the reader to "be of good cheer" and to "have courage" and the passage that states that "he will bring down my gray hair in sorrow unto the grave," are but a few of the indications of this understanding that are contained in the Bible. Of similar import are many statements in Homer. For example, the *Odyssey* admonishes "be joyful, merry and happy." On the opposite side of the picture is Homer's statement: "That thou mayest not mar thy flesh with weeping," which indicates that it was understood, even before the dawn of history, that grief was physically destructive. Again, he records: "On her fell a cloud of soul-consuming grief, and she had no more heart to sit upon one of the many seats that were in the room, but down upon the threshold of her fair-wrought chamber she sank moaning piteously," and, again, "her knees were loosened where she sat and her heart melted; for a long time she was speechless and both her eyes were filled with tears, and the flow of her voice was checked."

Homer indicates that anger, worry, grief, fear, sorrow, bitterness, jealousy, excitement and passions harmfully affect the body

and mind of man; while rest, sleep, exercise, games, humor, happiness, music, song and dancing are the best divergents for the distressed and unfortunate, greatly helping to maintain and to restore mental and physical well-being.

The office of games and sports in elevating the spirits of men is well depicted in the *Odyssey*, where he says: "Try thy skill in the sports, if happily thou art practiced in any; and thou art like to have knowledge of games, for there is no greater glory for a man while yet he lives than that which he achieves by hands and feet. Come, then, make assay, and cast away care from thy soul." He recounts that Chiron subdued the wrath of Achilles with music and that Orpheus kept peace and elevated the depressed spirits of the Argonauts by his songs and poetry. Of the use of song in cheering the spirit of man he says: "This was the song the famous minstrel sang; and Odysseus listened and was glad of heart, and so likewise were the others." Of the use of the dance for the same purpose, he recounts that "Odysseus gazed at the twinkling of the feet, and marveled in spirit."

We have previously seen that fasting is an instinctive practice in acute illness and in cases of serious injury. Homer's frequent references to fasting indicate that the practice was well known among the Achaean Greeks in the immediate prehistoric period. There are numerous references to fasting in the Bible, although the only reference to it in sickness (that of Jesus telling his disciples that "this kind cometh not out save by prayer and fasting") seems to be a spurious passage. Its interpolation at a later date does indicate that fasting was employed in what appears to have been chronic disease.

Homer frequently pictures fasting as being carried out by both men and women in states of great grief. Thus Achilles fasted after the death of his close friend at Troy. Penelope fasted when she was worried over the safety of her son, Telemachus, whose life was endangered by her suitors. In states of great grief and in other profound emotional states, there is both absence of desire for food and a lack of the physiological conditions requisite to the digestion of food. That the Achaeans abstained from eating under such conditions reveals that they were not afraid to miss a few meals and that they were guided by their instincts and not by science. At a later date, it is recorded of Alexander the Great that he abstained from food and sleep for three days and nights, so great was his remorse over the stabbing, by his own hands, of his friend Clitus.

Homer recounts the fast of Penelope when she was worried over the safety of Telemachus: "She lay there fasting, and tasting neither meat nor drink, musing whether her son should escape death. So deep was she musing that when deep sleep came over her and she sank in slumber, all her joints were loosened." Physicians, who know nothing of fasting, can talk learnedly about this passage indicating that

she was in a coma and that her joints were paralyzed as a result of fasting. Homer certainly knew better. Certain medical authors have attempted to show, by such statements in Homer, that he knew that when death takes one dear to us and we are overcome with grief, we cannot afford to neglect to eat, lest we pay in impaired health. But Homer here attributes the "loosening" of the joints, not to abstinence, but to "musing." By loosened joints, a phrase which he uses of warriors stricken in battle, he may mean the same as "loosened him his limbs," a phrase which seems to mean that the limbs crumbled under the man smitten through the head or whose head had been cleaved from his body. This takes place in the limbs of one who is asleep, even if he has been eating regularly.

That the early Greeks were acquainted with death from lack of food is also evidenced by Homer's remark that "to die by famine is the most wretched way to encounter one's doom; truly every shape of death is hateful to mortals, but to die by hunger is the most pitiful of all." Here he speaks of famine instead of fasting; this means that he is speaking of death from food inadequacy rather than from total abstinence. At this point it is necessary to emphasize the fact that death from total abstinence comes, not in the fasting period, but after the fasting period has ended and the period of starvation has begun.

As medical men make no distinction between fasting (a term meaning to withhold oneself from food) and starving (a term meaning dying), and thus confuse themselves and everybody else, it is necessary to enter into a brief explanation of the two processes. In a previous chapter it was pointed out that the fasting animal subsists upon stored food reserves contained within its own tissues. So long as these stored reserves are adequate to meet the needs of life of the animal under the circumstances, it is fasting. So long as these reserves are adequate, no injury can come to the functioning tissues of the body. Once the reserves are exhausted, if the abstinence continues, functioning tissues begin to break down. The animal is now in the process of starving—dying. It is no longer fasting.

Except in otherwise fatal cases, the end of the fasting period is marked by the return of hunger, so that food is insistently demanded and will be taken if it is available. In hopeless cases, such as cancer, serious and advanced heart disease, late tuberculosis, advanced diabetes, etc., there will be no return of hunger, for the reason that there is no power to digest food if it is taken.

Medical men do not hesitate to put ideas into Homer's head and to make him mean what he could not have meant. He was certainly not acquainted with modern medical theories and the attempt to put modern medical fallacies into his head is a form of dishonesty. Because, in the *Odyssey*, he has one of his characters say: "Nay, come, there is yet food and drink in our swift ships, let us bethink of food,

that we pine not with hunger," they assert that Homer emphasizes that hunger may cause serious damages and complications in the body. When he says "to die by famine is the most wretched way to encounter one's doom," he is not speaking of fasting, but of the slow process of dying from food deficiencies.

Cleanliness is one of the basic elements of hygiene. A knowledge of the importance of cleanliness has been in mankind's possession since long before the dawn of history, if not from the beginning of human life on the earth. We know that man has frequently incorporated his strongest convictions in his religions and these religions have preserved for us many of the earliest practices of the race. Religion has rarely been a creator; more often it has preserved, at the same time that it has tried to fortify a practice with divine sanction or by direct command of the deity. When cleanliness and more or less sound rules of eating were part and parcel of a religion of a people, it will be found, upon investigation, that these inclusions in the religious way of life have been handed down from antiquity, from prehistoric times in most cases. Something of this nature must have been in the mind of Zoroaster when he declared that the laws of the magians were from the beginning. Certainly the religion that he systematized was much older than his time.

A number of ancient law-givers and religious leaders ranked cleanliness among the religious virtues and its neglect among the sins, thus demonstrating that knowledge of the value of cleanliness and of the evils of uncleanness was possessed by prehistoric man. The devotees of the ancient magian religion, which preceded by centuries, the first physician, were required to "avoid all pollution," to "bathe often," and to "be frugal." Zoroaster, who systematized but did not originate this religion, said that the laws of the magians were from the beginning and were observed in heaven. Chaldean prayers and hymns are interspersed with ritualistic conceptions of cleanliness and uncleanness. Evidence that much that is recorded in the Bible is far older than Moses, indicates we are reading poems and orally transmitted history and philosophy from a much earlier period, some of it going back to the stone age. The great emphasis that is there placed upon personal and community cleanliness contrasts strongly with the disparagement of personal cleanliness and the almost total neglect of community hygiene that characterized the Medieval and Modern world until a little over a century ago. The Hebrews also laid great stress on washing the hands before meals. Personal and community cleanliness was stressed among the Mohammedans and it is noteworthy that these cleanly people escaped the plagues that ravaged filthy Europe during the Dark Ages and for a long time thereafter.

It is stated that the first traces of bathing are found among the Egyptians of 3,500 years ago; that they had devised a bathtub at that

time, but it is likely that bathing had its origin centuries before the first traces of it were left in the archeological remains of the ancient Egyptians. The first bathing was probably done by our primitive ancestors, as among modern savages, in streams, lakes, pools and the sea; even the first shower baths were taken in the rain.

The cleanliness of the Egyptian is notable. Everything putrid and everything that had a tendency to putrefy was carefully avoided by them from the remotest time, and so strict were their priests on this point that they wore no garments made of any animal substance; they shaved their whole bodies, even to their eyebrows, lest they should unknowingly harbor any filth, excrement or vermin, which they thought arose from putrefaction (spontaneous generation), and it is thought that the rite of circumcision arose out of this same effort to avoid putrefaction. The Greeks also shaved their bodies for the sake of cleanliness.

Archeological excavations at Knossus on Crete have revealed baths and drainage systems that are thought by some to be older than the civilization of Egypt and Babylon. The Aegeopelagitic civilization had a well-developed system of gymnastics, and exercise and baths formed a part of everyday life. Under the palace at Knossus was unearthed a fully equipped sanitary bathroom and water closet. Nearly all the basic principles of modern sanitary engineering were known to the designers of the palace of Knossus. Minoan (Aegean) civilization had already disappeared when Homer (about 1,000 B.C.) sang of its glories and terribleness.

In the highly advanced civilization in Vedic India, in the Indus Valley, which passed away about 2,000 B.C., private homes were built of brick and equipped with bathrooms which drained into sewer pipes and ran underneath the principle streets and drained into the river.

Baths in Homer were both hot and cold and were taken in springs and streams as well as in the ocean. There were fresh water and salt or sea water baths and there was anointing with oil. Homer tells of Aphrodite of Paphos being "bathed and anointed by the Greeks who used imperishable, immortal oil." Sea bathing was often a ceremonial cleansing, as when Atreides bade the fold purify themselves; "so they purified themselves and cast their defilement into the sea." He frequently referred to bathing as a means of purifying (cleansing oneself) and as being refreshing and as promoting quick recovery from fatigue. The wives of his heroes are pictured frequently preparing baths for their husbands, while he mentions both cold and hot bathing, bathing in the sea and river as well as in the bath tub.

A practice among the Achaeans that must have helped to popularize bathing was that of the daughter of a host bathing the young men as guests. "Fair Polycaste, the younger daughter of Nestor, son of Meleus," bathed Telemachus, "son of Odysseus, and anointed

him with oil, and cast about him a goodly mantle and a doublet, and he came forth from the bath in fashion like the deathless gods." In the home of Menelaus, also, Telemachus, together with Thrasymedeus, "splendid son of Nestor," were bathed by the maidens, who also anointed them with oil and put thick clothes and doublets upon them.

Bathing plays a role in Homer almost equal to that of food: "...so then at evening they bathed in the river and were refreshed." The stress placed upon cleanliness in Homer indicates the importance it assumed in the minds of prehistoric man. The frequency with which the baths were taken in the rivers and in the sea indicates that man did not await the invention of the bathtub and plumbing to bathe. Homer describes wounds being cleansed with hot water, a striking contrast with the practice of physicians and surgeons of the Middle Ages, who poured boiling oil into wounds.

In the *Odyssey* we see the Achaeans washing their hands before eating with as much regularity as ever the Israelites washed their hands before meals. Although China got a late start in civilization, the sagacious comment, "work done with dirty hands is worthless," found carved upon the wall of a sacred Chinese temple of 1,000 B.C., indicates that the Hebrews were not alone in demanding cleanliness of the hands.

At a later date the Romans placed great stress upon personal and community cleanliness, and established great public baths throughout the empire. These were not the work of any medical profession, but preceded the introduction of medicine among the Romans. Their cleanliness was primitive and not a medically fostered practice. Katherine B. Shippen says in her *Men of Medicine*: "Though the intelligent Romans thought very little of the practice of medicine, they set great store by the preservation and safeguarding of public health. The enormous public baths were crowded with patrons. The baths of Caracalla could accommodate sixteen hundred people at one time, and the baths of Diocletian had room for three thousand. Here there were steam rooms, and rooms for massaging, pools of tepid water and cool water, and hot baths and cold baths. Great baths like these were built and patronized everywhere throughout the Roman Empire."

These baths were not built by nor under the supervision of physicians, nor upon the advice of physicians, for Rome had no physicians at the time the baths were first built. Miss Shippen tries to find "some herb doctors" "for no people has been able to get along without some kind of medical practitioners," she naively says. Her "herb doctors" "went through the country, treating people with decoctions of their herbs and with their incantations and amulets." Not only does she picture to us nothing more significant than magicians and magic practices, but she gets the decoctions out of their proper

historic setting. The Romans practiced cleanliness, were careful of their dietary practices, and were athletic. Largely vegetarian in practice, forced by necessity to be frugal in their eating habits, eating simple fare, they maintained health in the only way that it can be maintained.

I must stress, in this connection, that knowledge of the value of cleanliness and of the evils of uncleanness long antedates the origin of the medical profession. I think it noteworthy that during the Dark Ages, when the priestcraft discouraged cleanliness and the people were steeped in filth, the medical profession did not raise any protest against the uncleanness that everywhere prevailed, but on the contrary, when a revival of cleanliness began, opposed it on the absurd ground that cleanliness will produce disease. Modern physicians gave no attention to cleanliness until Pasteur scared the wits out of them with his germs and, even now, following in the footsteps of Lord Lister, they prefer chemical sterility to cleanliness. Both Semmelweis and Holmes accused them of killing mothers with their unclean hands. They drove the first to insanity and death, and retired the second. The second was an avid reader of hygienic and hydropathic literature and probably derived his inspiration from these sources; it is possible that the first was a reader of hydropathic literature.

Until a city population learns how to render their city sanitary, the people must suffer much from the befoulment of their environment. Moses provided the Israelites with a means of keeping their campsites clean, perhaps in order that they would not be forced to move so often, but the method employed would not serve the needs of a town or city. In these, some very efficient sanitary systems must be employed, else the city becomes so foul as to be uninhabitable. Archeologists credit man with having "discovered" sanitary requirements in Neolithic times. Although he must have discovered such requirements very early, some of the ancient cities, like Babylon, were very insanitary.

The practice of community hygiene, so far as its employment in civilized communities is concerned, goes back to prehistoric ages to Aegean or Cretan and Vedic Indian times. It was practiced by ancient Egyptian and Assyrian cities. The baths and water closets of Crete have already been noted, as have also the bath rooms which drained into sewer pipes that ran underneath the principal streets and drained into the river, that existed in the Indus Valley civilization in India in Vedic times. All of this high development of sanitary means occurred long before there was a medical profession. It was not an invention of the medical profession and it was not a function of medical men to attend it.

Community sanitation, perhaps, attained its highest level, at least so far as mechanical contrivances are concerned, in the Roman Empire. The Roman systems of sanitation, like that of their

predecessors on the stage of history, were not works of physicians. There is no history of a single country of the past in which the hygienic and sanitary systems originated with physicians. Sanitation or community hygiene, which was provided for by many of the ancient law-givers, antedates by centuries the origin of medicine. Long after the medical profession came into being, community hygiene was in the hands of the city fathers and the priestcraft and was ignored by the physicians, who took no interest in sanitation.

Miss Shippen says that "The Roman sewer systems were even more ambitious than were the baths. The Cloaca Maxima, the biggest of the Roman sewers, which was built in the sixth century B.C., was so tremendous that it was said a load of hay could be driven through it. And the sewer was copied in many other places throughout the Roman Empire. There was running water even in the smaller towns. Archeologists, digging up the ruins of those towns, were astonished to find water closets with running water (water closets were not known in Europe until at least a thousand years after Roman times.)"

It will be noted that the largest of these sewers was built at least two hundred years before there was a medical profession and a much longer time before the first physician reached Rome. This splendid sanitary system was not the creation of any medical profession. Miss Shippen, herself, testifies to the fact that this was not a part of any program designed by physicians, when she adds: "But public health and sanitation are not medicine. There were no doctors (she means physicians) of any note in Rome until Galen started to practice in Pergamum in Asia Minor. This was the second century A.D.," or nearly eight hundred years after the construction of Cloaca Maxima. She records the fact that Europe had no running water and water closets, she neglects to add that there were no sewers in Europe after the collapse of the Roman Empire, until at least a thousand years later. She also neglects to add that it was the break down of hygiene and sanitation in Europe that resulted in the numerous plagues that were responsible for such high death rates in Europe during the thousand years reign of anti-naturalism that soon followed. Lastly, she fails to record the fact that the re-establishment of sanitation in Europe was done by laymen and not by physicians, that, indeed, it was opposed by physicians. She writes propaganda, not history, hence she carefully chose to omit much that could have been said.

I think it noteworthy that during the Dark Ages, when the priestcraft discouraged cleanliness and the people were steeped in filth, the medicine men did not raise any protest against the uncleanness that everywhere prevailed, but, on the contrary, when a revival of cleanliness began, large numbers of them opposed on the absurd theory that cleanliness will produce disease. It is not without significance that there is a large body of physicians today who hold that sanitation and

hygiene have rendered us less resistant to polio virus. Today there are few physicians who will admit that hygiene and sanitation eliminated the plagues of the Middle Ages, but insist that these were eliminated by vaccination, although they developed no vaccine other than smallpox vaccine. There is a mountain of evidence that vaccination does not prevent smallpox and is no substitute for sanitation and hygiene.

In modern civilization, with its emphasis on "mechanical principles and technical potentialities rather than on organic development within the total natural environment," an almost fatal breach with nature has been made. Our giant cities and even our smaller ones would become uninhabitable within a very brief time, except for efficient sanitary systems. That man can exist amid great filth is demonstrated by those Eastern populations that do it, but he lives a precarious existence and endures much suffering that could be avoided by simple cleanliness.

Although Thucydides, who was a historian and not a physician, was the first to write about "infection, resistance and immunity," the idea that certain diseases are contagious or infectious is a very ancient one, its very origin being lost in the mists of antiquity. How did man come to think that disease could be caught or could be transferred from one person to another by contact or by proximity? How soon after he had acquired this idea did he learn to isolate patients suffering with these diseases? How early did he attempt to fumigate and disinfect his surroundings in an effort to avoid these diseases? These are questions that, for the moment at least, are unanswerable. We may pass them by and consider the evidence that these ideas and practices had their origin in prehistory, perhaps as part of the system of magic.

Homer thus describes the use of brimstone in what is certainly a practice of fumigation: "Bring the necessary sulphur, old nurse, that cleanses all pollution, and bring me fire, that I may purify the house with sulphur." "Fire was brought and brimstone, and Ulysses thoroughly purged the women's chamber and the great hall and the court." It seems clear, from this, that the practice of fumigation reaches back into prehistory. It took mankind a long time to abandon the folly. Have we yet learned that cleanliness is the genuine safeguard of health? (The ancient practice of building huge fires in the streets and market places of the cities, during an epidemic, seems to have been an effort to fumigate the city—perhaps to make it hot for the evil spirits.) Ovid, in his magnificent collection of Greco-Roman myths, *The Metamorphoses*, pictures the act of purification with burning brimstone as a magic rite. He has Medea purge the flesh of Aeson, father of Jason, with smoldering sulphur.

In this connection it is interesting to note that Moses also advised the isolation of certain types of patients, enjoined frequent

bathing and strict cleanliness in these and other cases of illness, and often advised the tearing down of the house in which the sick had been sheltered or the complete renovation of the walls of the house, indicating that the Hebrews had ideas similar to those of the Greeks. Could they have brought these ideas with them from Egypt? Or, if the thesis is correct that the Old Testament was compiled after the return of the Hebrews from their Babylonian captivity, did they derive the idea from the Babylonians? Perhaps these practices were general in the near East and in the civilized West at the time.

There does not seem to be any way to fit these ideas and practices within the framework of the demonology that long prevailed; nor can they be fitted into the older idea that it is god who sends sickness. If the idea that diseases are "catching" is as old as these practices indicate, it would be interesting to know just what it was that the people thought was "caught." It was more than a thousand years after Homer wrote that the belief arose that disease is caused by minute animals (*animalcules*) that are too small to be seen by the unaided eye and that float in the air. Varro, one of our standard sources of knowledge of the past, wrote: "Small creatures, invisible to the eye, fill the atmosphere in marshy localities, and with the air breathed through the nose and mouth penetrate into the human body, thereby causing dangerous diseases." While the germ theory, of which this was the beginning, is at least two thousand years old, it did not arise in prehistory nor in early history. If we cannot fit cleansing and fumigating practices into the various theories of etiology that prevailed at the time and later, we must at least think that they had some idea of what they meant by "contamination" and "pollution."

Ulysses is described by Homer as purifying his hands by washing them in strong wine. As this could have been no reference to the employment of alcohol in destroying germs, it was probably a ceremonial "purification" in which Ulysses indulged. The Greek tribal leaders, of whom Ulysses was one, must have been medicine-men, a circumstance that fits in very well with the fact that the state was set up by the priestcraft. Certain medical writers have attempted to make the washing of his hands by Ulysses into an antiseptic practice, but Ulysses could hardly have known anything of germs and sepsis. The practice was probably a religious or magical rite. We must always avoid the tendency to read modern meanings into ancient practices and into ancient records. Wine was frequently employed in a wide variety of magical and religious ceremonials and there are religious orders and sects yet in existence that defend its use as a drink on religious grounds. There are also religious orders that manufacture wine and enjoy a sizable income from its sale.

That wine was later employed by the leeches as medicine and that its employment as such is still advocated by both physicians and

certain religious groups attests to the hold it has on the imaginations of men. The Hebrews thought that "wine itself makes the life glad." (Eccl. 10:19). They thought of it as also making the heart of God glad. Wine drinking was almost universal in ancient times, people often mixing it with spices and drugs to make it more "heady." In Numbers 28:7 we find a stronger alcoholic being used as a "drink offering" to Jehovah. In the New Testament Paul advises Timothy to drink water no longer, but to take wine for his stomach's sake. By this time, wine had become a medicine.

The employment of wine today as a "powerful germ killer" is defended by medical men. The *New York Times* (April 4, 1959) carried the statement that "The French Committee of Studies on Alcoholism reported that wine is a powerful germ killer whose action is comparable with that of penicillin." What they seem to have neglected to add is that "powerful germ killers" are such because they are virulent poisons and that they also kill men. Penicillin (an antibiotic) kills germs and patients.

Salvatore P. Lucia, M.D., professor of medicine in the California School of Medicine, says in his book, *Wine as Food and Medicine*: "Wine is the most ancient dietary beverage and the most important medicinal agent in continuous use throughout the history of mankind ... Actually few other substances available to man have been as widely recommended for their curative powers as have wines." Again: "Wine is widely used in the treatment of diseases of the digestive system. It is found to be particularly beneficial in anorexia, hypochloridia without gastritis and hyposthenic dyspepsia. Minor hepatic insufficiency responds not unfavorably to unadulterated dry white table wine. The tannin content and mildly antiseptic properties of wine make it valuable in the treatment of intestinal colic, mucus colitis, spastic constipation, diarrhea and many infectious diseases of the gastro-intestinal tract." Thus we see the glories of wine still being sung by the poisoning school of medicine.

As religion and medicine both grew out of the ancient system of magic, it is not surprising that both systems still employ and defend the employment of wine. The facts that Jesus drank wine and that he is reported to have turned water into wine at the feast of Cana are often cited as evidences that wine, if not taken in "excess," is a wholesome substance. One religious group says: "Knowing what medical science has discovered about wine, we can understand how Timothy's stomach condition could be materially improved by the use of 'a little wine.' An excess, an immoderate quantity, however, would injure the stomach." Both these branches of the ancient system of deception are still humbugging the people. The lies of medical science continue to be employed by religionists to defend their continued indulgence in the ancient rite.

The closeness of Lucia to the wineries of California, certain of which belong to the Benedictine order, which manufactures and derives a large income from the sale of Benedictine wine, his name, which hints that he is a member of the same church, and the fact that he is a medical man, all combine to cause us to suspect that something more tangible than a mere belief in the wholesomeness of the decay of grapes motivated his efforts in writing his book. Medical men are all committed to the absurdity that poisons are the proper things with which to treat the sick and alcohol has long been one of their favorite poisons.

WESTWARD FROM EDEN

Chapter 7

The discovery of America in 1492 introduced the European world to a large segment of the Mongoloid branch of the human family. Most of these people, whom we erroneously call Indians, were living in rude savagery, but certain of them had attained an advanced stage of civilization. I shall make no effort to consider in great detail the practices and ways of life of all of the Native American tribes, but shall content myself with a brief discussion of a few of the practices that seem to have been more or less general.

The ruder tribes lived a communistic way of life, remnants of which persisted in the regulations of the highly civilized nations. A white man once advised an Indian to practice economy by saving superfluous food against the scarcity of winter. "Will I let my brother suffer when I have plenty," asked the Indian. Whatever the Indian had he cheerfully bestowed upon the needy of his tribe. There was no private ownership of land and, as a rule, land was worked socially.

They were a healthy people, noted for their strength and endurance. In his *History of the Choctaw, Chickasaw and Natchez Indians* (1899), H. B. Cushman tells us that mental and nervous diseases were unknown among the Choctaws and that idiocy and deformity were seldom seen. They were erect, well formed and vigorous. The Choctaw and Chickasaw mother, about to deliver her baby, retired alone, to some private place and, in a few hours, returned with her baby and quietly resumed her occupations. No midwife attended her and her delivery was almost always painless, thus evincing a degree of health rarely observed in civilized women. The Indians were very solicitous of the welfare of their children. As one Choctaw expressed it: "The aged men of my people always expressed more concern for the welfare of the young than they did for themselves."

Hunting formed an important part of their way of life, although most of the tribes also indulged in agriculture and in food gathering that gave them many wild fruits and nuts, such as acorns, pecans, walnuts and hickory nuts. In Kentucky, Tennessee and adjacent regions they gathered and ate the pawpaw. Wild berries also were eaten. In their hunting practices, they were not sportsmen, but food getters. "No animal," says Cushman, "adapted for food was ever killed in wanton sport by any Indian hunter." This rule of killing also prevailed among the civilized tribes. He mentions the deer, wild turkey, squirrels and other game eaten by the Indians. On the coast of Texas there resided one tribe that was sunk in cannibalism. It seems to have

been slowly dying out and there does not seem to remain even a remnant of these man-eaters—*anthropophages*.

Almost from one end of the Americas to the other, maize (corn) was a staple article of diet, being raised by most of the tribes and prepared in a variety of ways. Beans and potatoes, also, were raised and eaten. Cushman tells us of "the little fields of corn, pumpkins, potatoes and beans" of the Chickasawas. De Soto, in recounting his visit to the Choctaw chief Tuscaloosa (Tush Ka Lusa) in Mobila (Moma Binah), says that on the third day of their march they passed through many populous towns well stored with corn, beans and other provisions. Honey they gathered from the hollow trees in which the bees stored it.

The Native American wore few or no clothes, was in the open air most of his life and moved his camp-site when it became insanitary. He bathed in the rivers and streams, ate his food simply prepared, much of it raw and with a minimum of processing. His was an active life, the children engaging in games that, for the most part, imitated the activities of the hunters and warriors. Wrestling, dancing, running, archery, ball games, swimming, canoeing, and similar types of activity constituted exercise. The ball games of the Choctaws and their neighboring tribes were awesome sights. To his trials of strength, wrestling, foot racing, jumping, etc., he added horse racing after the coming of Europeans.

Three highly advanced civilizations existed on the American continents at the time of their discovery by Columbus—the Maya, Aztec and Inca or Peruvian, of which the Maya was the most advanced—which were ruthlessly destroyed by the gold-hungry Spaniards. All of these peoples had made considerable advances in the arts and sciences; the Mayans, at least, had means of writing, while their pyramids rival, if they do not surpass in architectural beauty, those of Egypt. Standing on the borderline between prehistory and history, they supply us with added insight into the ways of prehistoric man.

Like the Peruvians, the Mayans were an agricultural people. Their lives were simple and largely spent in the open air, farming, fishing, hunting and in their boats, as they were navigators that got as far east as Cuba. They carried on an extensive trade along the coast. They weaned their children at the age of four, a practice common to natives all over the Americas. Spanish eye-witnesses of the Mayans at the time of the Spanish colonization of America, describe the young children as "pretty and plump, good and frolicsome, running naked as they played at hunting games." Later the boys donned a sort of G-string and the girls tied a shell over the mound of Venus. All through their lives, these scantily clad people were in daily contact with the sun and air.

The Mayan farmer, who went to work in the fields at early dawn, had a drink of maize water for breakfast. He took with him to the fields to eat at noon, several apple-sized balls of ground maize mixed with pepper and wrapped in leaves. This noon day meal was sometimes supplemented with dried venison. The Mayan ate the principal meal of the day at sundown. "Corn was the epicenter of the Mayan world," says Victor W. Von Hagen in *World of the Maya*. It was eaten on every occasion and during their evening meal each diner would eat upward of twenty large-sized tortillas, which were made of ground corn.

Besides corn they cultivated several varieties of beans, squash, pumpkins, chayote, the pale sweet potato, avocado, sapote, papaya, melons, the sweet cassava and a root that resembles the turnip and which they called *chichum*. They had mulberries, the fruit of the "chewing-gum" tree and many other fruits. Honey they gathered from hollow trees. Ducks and turkeys were domesticated; deer and other game were hunted and they did considerable fishing. The Mayans ate well when food was plentiful and could endure hunger when there was no food. They fasted on special occasions but not much is known about why they fasted.

It is significant that the Mayans made amends for the killing of animals. They prayed before killing an animal and, "rather than eat the kill, the hunter would give it to another, who returned a part of it to him. All over the land hunters made amends for shedding the blood of the animals they had killed," says Von Hagen. A similar code existed in the Austrian Tyrol.

The diet of the European masses at the time of the discovery of America was vegetarian and frugal and they ate but two meals a day. Many people went hungry and scurvy was common from food deficiency. No wonder Von Hagen says that the Mayans had a list of food-stuffs that would have made the Europeans of the time think they were living in Paradise. Medieval chroniclers often write of colossal meals washed down with vast quantities of wine. Such meals were eaten on rare occasions by nobles.

The Mayans fermented honey and made mead to which they added an alkaloid-yielding bark that they called *balche*. In addition to this, they drank chocolate. I can find no references to any alcoholic drink other than mead, but they may have had others.

They were an outdoor people who engaged in games as well as in hunting, farming and boating and, although short of stature, were robust and strong. They bathed often, both men and women bathing freely in the nude. By custom, their wives had a hot bath ready for the farmers when they returned in the early afternoon, from their labors in the fields. In the large cities, there were communal steam baths; where these were not available, the common man contented himself with a

crudely made steam bath or a hot water bath in an improvised tub. Washing preceded and followed each meal.

Among the Mayans, Von Hagen tells us, quoting Landa, "the physicians and the sorcerers . . . are the same thing." They thought that illness and death were brought on by supernatural causes; they "diagnosed" illness by divination, burned incense and blew tobacco smoke across the patients, and performed other rites of exorcism. Like men in the ancient civilizations of the Mediterranean crescent, the Mayas thought the gods had to be nourished, hence the sacrifices, some of them human.

Few Indians had salt. The Mayas were an exception and they took it with their food. Their employment of tobacco smoke in their incantatory rites in scaring demons out of the bodies of the sick may point to the origin of the tobacco habit. Indians did not chew tobacco, but soon learned to do so when the Europeans began the filthy practice.

Peruvian civilization was further advanced than that of the Aztecs and the Peruvians seem not to have resorted to human sacrifices. They were an agricultural people and highly skilled in its several arts. They cultivated a wide variety of fruits and vegetables, including the cassava and banana. Like other Indians, they raised maize of which they ate the fruit and from the stalk of which they extracted the sweet juice, often fermenting this and using it as an alcoholic drink. They also cultivated a grain that resembles rice, which they called *quinoa*.

They were moderate eaters, taking but two meals a day, about nine in the morning and at sunset, which was at about the same time of day throughout the year. They ate fruits, vegetables, corn, game and made a bread and a wine. Their lives were spent in the open, lightly clad and in contact with the sun and air. They engaged in running, wrestling, boxing and other athletic pastimes and in mimic combats with blunted instruments. Like the Indians of North America, they often underwent fasts of several days duration as matters of discipline.

The life of the Aztec was about the same as that of the Mayan and Peruvian. They cultivated maize from which, like the Peruvians, they extracted a sweet sap which they made into a drink. They used this sap with which to sweeten chocolate, which they also cultivated. The chocolate was flavored with another product of their agricultural effort, vanilla. Mexico produced a wide variety of edible plants and fruits and much game. The Aztecs also had domesticated fowls.

In the *Ancient American Civilizations* (1953) Hyatt and Ruth Verrill say that "Of all our food plants, our fruits and nuts, over eighty percent are indigenous to America and were cultivated by the ancient Americans. Even the most primitive tribes had their fields and gardens where they cultivated maize, beans, squashes and pumpkins, melons of

various kinds and, in the warmer areas, sweet potatoes, tomatoes, peppers and other food plants. The more cultured and civilized races—the Incas, Mayas, and the Mexicans had great areas of well-tilled land, and raised vast quantities of vegetable crops.

“It would require an entire volume to name and describe all the strictly American food plants, fruits, nuts, tubers, grains, etc., that were known to and used by the ancient Americans. Prominent among them are the various snap beans, squashes, pumpkins, water melons, peppers, egg plants, tomatoes, white and sweet potatoes, manioc or cassava, pineapples, strawberries, avocados, arrowroot, sapodillas, guavas, Jerusalem artichokes, peanuts, pecan nuts, hickory nuts, butternuts, Brazil nuts, persimmons, maguey, Surinam cherries, blackberries, blueberries, many of the grapes, raspberries, palm cabbage, pimento, vanilla, tonka beans and maize.”

This is but a partial list and does not include many foods, like the dewberry, black walnut, red haw, black haw, pawpaw, sunflower seeds and many others that grew wild in many sections of the Americas and were used. Their list omits, also, the acorn which was widely used. The department of Agriculture informs us that the Indians cultivated many plants that we are too lazy to cultivate, as they are troublesome and require more work than we like to perform. The Verrills offer, as evidence that many of these food plants had been cultivated by the Indians for thousands of years, the facts that they were “depicted on most of their ancient carvings in stone and pottery, and that many of them, such as peanuts, beans, lima beans, squash seeds and melon seeds, sweet potatoes, etc., are found buried with the mummies of the most ancient pre-Incan graves in Peru.”

There would seem to be a dearth of green or leafy vegetables in this diet, as here listed, and it will be noted that the diet of the Indian was predominantly fruitarian. Long before the arrival of Europeans these foods (most of them) had been adopted by the Indians from Chile to Canada, from the Atlantic to the Pacific. The adoption of many of them by Europeans, who took them back to Europe, rescued Europe from scurvy and hunger, and helped to wipe out many of Europe’s prevalent plagues.

Discussing what they designate the “enormous debt” that we owe to the Native American for the “many medicinal plants they gave us,” among which they list cocaine, quinine and calisaya, sarsaparilla, hipecachuana, rhubarb, aconite, wintergreen and sassafras, liverwort, arnica, boneset, gold thread, ginseng, mandrake, viburnum, tansy, yarrow and tobacco, the Verrills say: “That the people of the Old World ever managed to survive without some of these medicines that are now in daily universal use is little less than a miracle. And how they must have suffered with injuries and illnesses without sedatives, pain killers and local anesthetics that were all in use by the ancient

Americans. No one possibly can estimate the benefits that have resulted from the discovery and use of American medicinal plants and their derivatives, but undoubtedly during the centuries that have passed since the Spanish Conquest, medicines and drugs of the American Indians have saved more lives than all the Indians ever slain by the white men."

This effort to convert the Medicine man, a murderous and ignorant dealer in magic, into a physician and the ingredients of his magic into medicines is characteristic of the archeologists, anthropologists and historians. Few Indians had cocaine and quinine. Indeed, most of these drugs were of local growth. Tobacco, the American and European medical profession employed for a long time as a medicine and then abandoned. Quinine has proved such a flop that it is no longer in good repute. Sassafras provides salicylic acid (aspirin), but of what genuine value is it? Indeed, where is there a drug among those they list that is anything other than a poison?

The fact that all over the world, outside the Americas, the human race did survive through long ages without these American drugs and did multiply and many parts of the world did become overpopulated and they did overflow into and overrun the Americas, all without these drugs, should reveal, not that mankind survived as a result of a continuous series of miracles, but because these poisons are not necessary or even helpful to survival. If Sumer, Babylon, Egypt, Greece, Rome and the rest of the ancient world got along without them, they do not seem to be so vitally important to human welfare. It is time for historians, anthropologists and archeologists to cease finding a medical profession where there was none, and to cease discovering benefits where there is only hurt.

MAN'S PRIMEVAL MAJESTY

Chapter 8

Modern man is sick. With all of his boasted scientific advancement, he grows progressively sicker each year. In view of the almost universality of disease, degeneracy, weakness and crime among the races of man today, we must think that man, as we know him, is congenitally diathetic and that the integers of his organism are weakened and crippled. Embarrassed as are man's vital functions by the artificial life he has evolved under the mis-guidance of shaman, priest, physician, politician and industrialist, he is not yet reached the stage of irreversibility in his downward evolution, and regeneration is still possible. Hygienists are convinced that a return to biologic wholeness is an eminent possibility and that man's pristine majesty may be restored by a full return to the primeval way of life upon which his pristine wholeness rested.

Whatever the truth about the possibility of a restoration of full health, the fact remains that today health is something almost forgotten; something immensely precious that we long for, but seldom acquire. We look backward to a Golden Age and forward to a life in heaven, but we have placed a question mark before our present age. Cancer and heart disease, insanity and apoplexy, diabetes and cerebral palsy have increased so much among us that we are pessimistic and growing more so in spite of the daily assurances of our medical scientists that they are rapidly "conquering" our diseases and need but a few billions more of dollars to complete the job.

Our present state of physiologic and biologic botchedness poses for us a serious problem for the future and raises a question concerning our past. We are justified in asking: *Is modern man a valid standard of the race of man?* Can we accept the pathology of modern man as truly representative of the health of early man? The fact is we do use ourselves as a measuring rod with which to measure our remote ancestors. But our interpretations of the past are simply backward projections of the present, with progress always uppermost in our irrational minds. Are we correct in doing this? I am convinced that we are entirely wrong in making ourselves the standard of the race.

The conscious superiority of modern man over his ancient ancestors, our colossal conceit that prompts us to treat these ancient peoples as children and our contempt for the "primitive mind" lead us to regard ourselves as the true norm, the ultimate pattern of humanity. In our scoffing arrogance, we think of our deplorable deficiency as a measure of the vigor and soundness of our ancient prototypes. Humiliating as it must be to us, we must never forget that we are far

below par in every respect, and that our standards are completely valueless, except for measuring varying degrees of ill-health. Nothing seems to me to be more absurd than the practice of using the pathology of modern man as a standard by which to judge the wholeness and soundness of our remote ancestors.

It seems to me to be highly unscientific for modern man to apply his own inadequate standards of dwarfed body and probably shrunken intellect also, to his considerations of his primeval ancestors. We should assume, from the start, that living as naturally and normally as the deer of the forest, our primitive ancestors possessed a standard of vigor and health comparable with that of the wild deer. Indeed, when we consider his greater complexity of structure, we should assume a greater degree of vigor. The perfect integration of the human organism does not lead to stagnation of the organism, but to greater functional capacity, greater freedom of action and greater powers of action. The more perfect the integration, the higher the degree of efficiency with which an organism functions.

Let us consider specific cases. Archeologists have found female images in what are called "Aurignacian Age" deposits which stress breasts, abdomen, navel and the hypogastriac region; the breasts invariably hang heavy and pendulous, the abdomen protrudes in a manner that can only indicate a woman in advanced pregnancy. In one there is an exaggerated vulvar region with the arms placed over the breasts. They assume that these figures were amulets employed as aids to fertility and to assure ease of delivery or both—that they are forms of sympathetic magic. This interpretation not only projects the system of primitive magic back far beyond its probable origin, but also, and unwarrantably, projects the deficiencies of modern men and women into that remote period. It assumes that male and female sterility was as frequent then as now, that men were impotent and that women experienced the same difficulties in delivery that modern civilized women suffer. Nowhere do we find the assumption, even implied, that prehistoric man was a splendid animal, functioning normally. In this instance, the women of the "Aurignacian Age" were not equal to modern primitives in delivery.

I would suggest, on the contrary, that primitive man, unaffected by all the weakening and disturbing influences of modern life, was as fine an animal as any that we see today in wild nature, if not an even finer specimen of structural integrity and functional efficiency. I would suggest that his chief characteristic, as distinguished from modern man, was his physiological and biological excellence. I think that Howard W. Haggard, M.D., offers a better picture of childbirth among primitive women when he says in *Devils, Drugs and Doctors*, that "the primitive woman had little difficulty with childbirth; but she had not been exposed to the evils of

civilization. Distortion of the bones of her pelvis by rickets, and the consequent difficulty or impossibility of natural birth, did not affect her, for she had not yet been subjected to the diet evolved by civilization nor did she shut herself from the radiations of the sunlight by glass and clothing. Furthermore she was not subject to that mongrelization characteristic of civilization, the cross-breeding which commerce makes possible. Her people were of one size; her baby was suited to the size of her pelvis through which it must emerge."

The Babylonian story of Gilgamesh, in recounting the events of the flood and telling us of the conduct of the gods, who were terrified by it, says that "The goddess Ishtar cried out like a woman in travail," a statement that indicates that the women of the Babylonians had already departed sufficiently from the normal ways of life that they experienced pain in delivering their young.

Another example of this effort to employ current pathologies as measuring rods with which to measure the physical excellence of our remote ancestors is contained in a statement by the Cambridge authority Dr. Seltman, in discussing ancient Greek women. He says: "Until fairly recent years puerperal fever was a danger which carried off young mothers, especially with first pregnancies. One must assume that a similar danger beset young Greek women having the normal kind of bourgeois background." Why must one make such an assumption, especially in the face of a total lack of all evidence for it? There is no more reason why sane and clean living women should have puerperal fever than that animals in the wild should have the disease.

Seltman had previously shown that the Greek women were healthy, athletic and happy. They led an active, outdoor life, largely nude and were not addicted to the dietary indiscretions of the present. Certainly they possessed a degree of health that European and American women of the immediate past lacked. Besides this fact, puerperal fever was seen almost wholly in mothers who were delivered by physicians with their dirty hands, and not in women delivered by female midwives. Puerperal fever is prevented by cleanliness and the Greeks were a clean people. We should not permit medical propaganda and the evanescent theories of the profession to determine our interpretations of the past.

Let Haggard again testify on this point. He says: "The woman of native or primitive peoples was not in horror of the devastation of childbed fever. The hand of no medical student or *accoucheur* of the pre-antiseptic age brought to her the contamination from the autopsy room or from her stricken sisters. Nor did she take her place in the filthy bed of a hospital of the seventeenth, eighteenth and even early nineteenth centuries, to lie perhaps with four other patients in a bed five feet wide, as at the Hotel Dieu at Paris, and wait, if she survived the fetid air, the pestilence of the place, and the butchery of the

midwife or student, for the fever, engendered by the weather, which killed from two to twenty of every hundred of her sisters who were forced to accept the fatal charity of such places." Dr. Oliver Wendell Holmes correctly accused physicians of killing mothers.

Seltman contends that "at no time in the world's history can woman have been so contented, so healthy and happy" as in the Sparta of Lysander or the Athens of Pericles. He informs us that it was the gymnasium and not the vote that emancipated the women of Greece and indicates that the revival of athletics among women of today has done more to emancipate modern women than has the vote, the importance of which no longer seems so great to women. He pictures to us little girls playing bears in Athens, older ones racing at Olympia, wrestling with boys at Chios, going to school at Sappho's Finishing School, dancing at Orthia's altars and fluting at feasts. They managed their households, bullied their husbands or took a lover and, like Atalanta, wore abbreviated dress. If they sometimes drank wine, they did not smoke, they had no tea or coffee, they had no white bread, no white sugar and candy—their food was simple and natural. They bathed regularly and had their time in the sun. Why assume that such women suffered the troubles of our corset-wearing grandmothers?

It is generally assumed by anthropologists that under primitive conditions, the ability to survive depended on a physical body that could quickly marshal and arouse its energy and mobilize its forces for fight or flight. It need hardly be added that the life of primitive man was not made up solely of fighting and fleeing, but that he had to meet and master many problems that required not only great physical strength and great endurance, but also great mental ingenuity. He had to be as alert of sense as the animals of the wild, as ingenious as the spider in weaving its web, and as capable of sustained action as the most enduring animal. All of this required a degree of physical and mental health of which we of today hardly dream. Health was *fitness*, the fitness that survives.

The reluctant admission by anthropologists that prehistoric societies probably possessed as high a ratio of potential geniuses as modern societies, is based on the implied assumption that prehistoric man was as deficient and defective as his modern botched descendent. His brain structure is assumed to have been as lopsidedly evolved as that of the people we see walking the streets today, an assumption for which there is no valid evidence. But we are determined that our ancestors shall be, if not inferior to us, at least not any better. Such is our egotism and pride!

Recently I read an admission in a leading Socialist publication that "all men are not equal in mental or physical capacity." The writer pointed out that "human beings of today, though basically no different, are qualitatively different from, say, human beings of the prehistoric

era." "A child of today," the writer went on to say, "with the aid of Arabic numerals and easily digested mathematics—can perform calculations that required genius in the social atmosphere of ancient Greece." Thus, as he pictured it, our assumed superiority over our ancient kin is a matter of social acquirements, not of greater intellectual endowments. We have accumulated knowledge and tools, hence our children in high school know more than did Aristotle, who couldn't pass an examination in present-day high school biology.

Just as the intellect of Aristotle is not to be measured against a modern background, but against the social background in which he lived, so the intellects of our prehistoric forebears are to be measured against the background of their own social environment. But this provides us with no information about their potential genius. The least among them may have been equal to our greatest; the symmetrical development of their brains may be guessed at by the remarkable symmetry of the Cro-Magnon skull, as contrasted with the frightening deformity and disharmony of the modern European and American skull. We may also well doubt that there was even a fraction of the amount of mental disease among them that is seen among us today. On the whole, geniuses seem to be merely better specimens of man. They commonly have better bodies and better brains. We seem to be on safe ground when we assume that better bodies and better brains were the rule among our prehistoric ancestors.

Knowing that modern savages, such as the Native Americans of a few decades ago, were able to run down and catch a deer, we should not be so ready to sell short our ancient ancestors. Tales of valor and great strength that have come down to us from the remote past (from prehistory and the earliest days of history) should not be summarily dismissed as fables. Hercules, Jason, Ajax, Achilles, Milo and similar heroes of the mythical past were products of a culture and a way of life that far transcends ours insofar as it supplied to the bodies of the people the requirements of maximum development. We are prone to dismiss these ancient heroes as fanciful fictions only because we recognize in them our superiors.

Mankind's ancient legends tell us of a Golden Age in which there were no seasons, but during which, it was warm the whole year through and man lived in peace and sustained himself upon the spontaneous products of the soil; he was not then an eater of flesh and a drinker of blood. These legends tell us of a change of climate, when icy winds first began to blow, when man was forced to cultivate the soil, when some men began to kill and eat animals. During this Golden Age man was free of sickness and attained a great age. After the Golden Age he began to suffer and his life span was greatly shortened.

Legend! Yes. But who is there so bold as to declare that such legends are not the blurred memories of an actual past? Perhaps the

Golden Age was the time man spent in the tropics, before he began to spread over the earth. Perhaps the changes of climate were met when he migrated into the temperate regions. On the other hand, geology tells us of an eternal spring-like climate that once extended from pole to pole. Perhaps the legends of the Golden Age take us back to the time before the earth's climate underwent a radical change.

Hesiod's *Golden Age*, an age about which the Greeks were most fervent, finds its counterpart in the legends or traditions of many peoples. The Biblical story of the Garden of Eden is a re-telling of an older story that was current among the Sumerians and Babylonians. The people of India, the aborigines of Australia, the Indians of the Americas, the Polynesians, the Eskimos, the Chinese and many other peoples had a similar tradition. In Celtic and Nordic legends and in other European legends, we have a similar story of a golden past. Of the Golden Age of the Greeks, Professor Elliot Smith says: "Anthropologists have provided us with the most definite evidence that such a condition of affairs as the poets describe, did in fact exist. No amount of ridicule can blind us to the true meaning of the overwhelming mass of information which is now available in substantiation of this conclusion."

These traditions may be regarded as racial memories of a time when man lived, perhaps for a long period of time, under ideal conditions; perhaps at a time when the climate of the earth was vastly different from what it now is. Originally man probably thrived in some favorable, peaceful part of the earth that was lush with fruits that were good for food. Perhaps it was the change of Earth's climate that forced him out of the Edenic paradise. Fossil palms, coal beds, coral reefs and other warm-climate plants and animals found within the Arctic circle and in Iceland, and many other similar evidences, make it clear that there was a time in the remote past when the whole earth was delightfully warm. It is thought that the unknown land that now lies under thousands of feet of ice at the south pole was probably covered with vegetation instead of ice. There were, then, no seasons as we know them, but a spring-like summer lasted throughout the year. The entire earth was filled with luxurious green things; flowers bloomed all the year through and fruits ripened all the year round.

Man lived in health and strength and experienced an exquisite harmony with an absence of discord and in freedom from pain and discomfort. His life was a physiological thrill, every cell in his body singing in unison, not a note out of tune, not a beat out of time, denoting the unity and wholeness of function of the well integrated organism, the fineness and excellence of its tissues and the vigor and efficiency of its functions that provide for the real joy of living.

Hesiod describes a vast amount of woes and ills that came upon mankind sometime in the prehistoric period. He doubtless set

down in writing, traditions that were old when he wrote. It is hardly likely that these woes and ills would have occupied a prominent place in tradition, if they were normal elements of man's existence. They made a deep impression upon the race precisely because they were abnormal and unusual. Prior to the time of which Hesiod writes, there must have existed a race of healthy, vigorous men, women and children, who understood the art of living. Today we do not live, we do not have an art of life: we can construct canals and bridges, intercontinental missiles and space rockets, but we cannot construct life.

That man, who lacks both weapons of offense and defense, has become the most wanton killer in all nature and the one most addicted to fratricide and internecine killing would seem to point to some great and radical deterioration of his make-up. No other being on the earth engages in the vast wars of mutual extermination in which man engages. Within the lifetime of millions now living, he has engaged in two global wars and is, even now, girding his loins for an even more destructive third world war. Who can doubt that this is a symptom of his increasing insanity?

Man owed his survival throughout a long prehistoric period, when, it is assumed, the living conditions he faced were more rigorous than those of today, to a more vigorous brand of function than he now possesses. We can but guess at the robust powers of our remote ancestors. The larger and stronger bones, better teeth and larger brains found in the remains of prehistoric man, may also indicate better vision, greater strength, more vigorous health, greater ruggedness, more stamina and longer life than we possess. Indeed, we are justified in assuming a prehistoric wholeness of man, of which man of today is but a fragmented wreck. Modern man has lost much of the primal sanities and composites of his primitive forebears. Prehistoric man was no trembling coward standing in faint-hearted awe before the thunder and lightning and fleeing in panic before "diseases" he did not understand. Fear of disease was cultivated by the priestcraft and the drug-craft at a later age to better enable them to exploit the common people.

Modern man is not the equal of Cro-Magnon man and of several other ancient peoples, neither in physical excellence, nor in brain capacity. Modern man's bone structure is fragile, his dentition is feeble; he is lacking in both stamina and fleetness; his special senses are blunted—his sense of smell is feeble, his growing employment of glasses and hearing aids attests to the deterioration of his vision and hearing. He stands as a symposium of deficiencies and proudly prates of his superiority and advancement. If we class these deficiencies, as others have done, as biological inadequacies, must we not, also, at the same time recognize them as results of degeneration? Even Homer's

heroes and heroines, men and women who lived long before he did, were members of a stronger race than the one to which he belonged.

The standard of health expected of the average man and woman of antiquity, and regarded by peoples of the past as an essential factor of happiness, is no longer required, upheld or even recognized among present-day Western peoples as the first requisite of a life worth living. Preceding the discovery of fire, which ushered in our crazy civilization, with its incessant toil and its spoilage of everything nature produces, the Golden Age, which Hesiod so well describes, saw a mankind so superior to us as to lead to the belief that they were a different race. Hesiod tells us: "For ere this the tribes of men lived on earth remote and free from ills and hard toil and heavy sickness, which brings the Fates upon them; for in misery men grow old quickly . . . Of themselves diseases came upon men continually by day and by night, bringing mischief to mortals silently."

HERITAGE FROM EDEN

Chapter 9

History did not dawn all over the world at the same time. Civilizations in different parts of the earth arose at different times, flourished and passed away. Contemporaneous with these civilizations, even contemporaneous with our own, there have existed great areas of the globe in which prehistoric man continued, and continues to live and carry on in the traditional pattern. Somewhere on the earth today practically all the cultural stages through which man is assumed to have passed in his climb to civilization, are represented. There are tribes that are still in the stone age and there are millions of cave dwellers still with us. There are nomadic tribes and there are dwellers in small communities. There are food gatherers, hunters, cultivators of the soil; there is chattel slavery, and feudalism; there is primitive communism and there are the vast modern empires with their complex civilizations. In some parts of the world the Middle Ages are still flourishing. Instead, then, of there being a sharp dividing line between history and prehistory, there is an overlapping of the two. Because mankind still exists in all stages of culture, it is possible to study him at almost all cultural levels.

We are accustomed to think of man's progress in complexness of civilization as representing some kind of evolution of man himself. This mistake is made because we have uncritically accepted the Darwinian myth as true. When we observe stone age people skip all the intermediate stages of cultural development and hop into the atomic age in one generation, as the Manus people of New Guinea did, we are compelled to doubt that cultural stages result from any evolution of man. Many of our accepted hypotheses and theories are in great need of overhauling or of junking. Even those great extensions of chronology indulged in by geologists, paleontologists, anthropologists and archeologists, to whom a million years are no more than a million dollars are to our national administration, are probably erroneous. Man's antiquity may not be so great as assumed.

A large amount of what is said about prehistoric man is based on what are regarded as permissible comparisons with recent or contemporary human groups who were or still remain in a state of savagery. Anthropologists are fond of the thesis that existing savages are primitives and that by projecting them backward in time into the prehistoric period, we may gain a fairly accurate picture of prehistoric man. This seems to me to be a perfectly legitimate procedure providing only that we do not project too much into the past. It would be inaccurate to think of modern non-literate peoples as being in the

immediate prehistoric stage of human culture for four reasons as follows:

1. Civilized man, in the immediate prehistoric period, was much further advanced culturally, than is the modern non-literate savage. When recorded history began, civilization had already reached an advanced stage. There were large cities, long trade routes, large edifices, much organization, irrigation and drainage systems and considerable knowledge of mathematics, astronomy and the rudiments of other sciences.

2. The non-literate savage of today has many elements in his culture that he has borrowed from several late sources. The Negro, for example, has lived in close contact with civilization, first Egyptian, then Greek and Roman, and, finally, modern, for six thousand years. The ancient Egyptians penetrated far into Negro territory. It would be absurd to think that during all this long period of time the Negro has borrowed nothing from civilized contacts. It seems highly probable, for example, that he borrowed circumcision from the ancient Egyptians. How many of his other superstitions and magic rites did he acquire from the same source? Did he get the bow, the spear, the shield and the boat from this source, also? The fact that so-called living primitives have particular notions does not prove that these are inseparable from the blood and sinew of man. We must always keep in mind that all existing primitives are recipients of a common heritage.

3. Many of the living *primitives* have shown a distinct disinclination to become civilized, thus showing, I believe, a certain incapacity for advancement. In my opinion, it is absurd to assume, without adequate justification, that those prehistoric peoples, who made the greatest progress in the arts and sciences, stood still for long ages before they began to progress. To assume that the peoples who developed the various cultures of the past stood still for long ages, as have the primitives who still exist and who have either resisted the encroachments of civilization or are incapable of high culture, is to overlook the obvious fact that they did not stand still. This makes it unsafe to project the present-day savage backward into the life of the prehistoric Sumerian, Egyptian, Babylonian, Phoenician, Greek, etc.

4. It is the height of the ridiculous to ascribe to primeval man the stupidities of which modern man, both savage and civilized, is guilty. Altogether too many of our stupidities, which are of comparatively recent origin, are projected backward by anthropologists into the life of primitive man. There is no doubt in my mind that the system by which modern savages, the men of early history, and to some extent, modern civilized man, attempt and attempted to control the forces and processes of nature, and which is known as primitive magic, was not truly primitive and that it is projected backward in the life of the race to a period ages before its earliest development. Its

diffusion over the whole earth indicates that it had its origin before the dawn of history, but how long before this dawn it is difficult to estimate. It seems to have reached its highest development in Babylon, Crete and Egypt in the historic period and may have had its origin in the immediate prehistoric period among one of these peoples. I doubt that its origin antedates the dawn of history by no more than two or three centuries.

For these reasons, among others, it is only when it can be shown that the conditions of man in antiquity most closely parallel those of living primitives that we have modern examples of prehistoric man for first-hand study. The peoples of northern Europe at the time of Caesar more closely represented immediate prehistoric man. They lived in small villages and large towns, tilled the soil, carried on an extensive commerce over lengthy routes, mined metals, worked in metals, were skilled artists and artisans, built large edifices, and lacked only written language to have left a history of themselves.

After all has been said, however, there remains the cold, hard fact that if we study modern man in his highest cultural phases and contrast him with his modern brother in the lowest cultural phases, we deal with the same basic organism and the same basic needs. This is the central fact of human life that must guide us in our efforts to understand the ways of life of prehistoric man. That this fact presents us with a fundamental meaningful principle of integration, by which prehistoric man and modern man may be studied, will hardly be denied. What follows from this is that the modern savage, no matter what his culture, as much as modern civilized man, like primitive man, must supply the same basic needs of human existence and must manifest the same urges and instincts indicating these needs.

Most living primitives are stationary populations living in villages. Few of them are nomadic. If they sometimes move their villages, they do not wander over the face of the earth with their herds. In this particular they may represent the normal way of life of primitive man.

They spend their lives in the open air, are physically very active, retire early, as they have not learned to turn the night into day as we do, and arise early. They would seem to lead about the same kind of life that prehistoric man must have lived. Unless we so class their ceremonial dances, few if any of them have any systems of formal exercise, but they are commonly well developed. No general statement about the life of modern savages will fit all tribes and peoples, but, there is a sufficient uniformity about the basic features of their ways of life that we can rely on what has here been said about their mode of existence.

The eating practices of living primitives are so varied and various that it would be impossible to form any opinion of man's

primitive diet by studying these. If we study the practices of each tribe, whether isolated or in contact with other tribes, we run up against such a medley of practices that we become bewildered. Eating customs among certain tribes that prohibit men eating with their mothers-in-law and that prohibit two families of in-laws from having friendly meals together, certainly grew out of no instinctive practices of mankind. They are tabus based on magical requirements. Their dietary habits are as variable as their sexual habits and customs and they cannot teach us what was the diet of primitive man. A few facts may be stated about them, however, that are true:

1. Their foods are natural, by which is meant that they are not processed and refined. They have not been adulterated, artificially colored and flavored and have not been chemically "conditioned" and preserved.

2. They eat much of their food in the uncooked state, even, in many instances, taking uncooked flesh.

3. Much of their food is eaten fresh; eaten either freshly plucked from the tree or garden or freshly killed.

4. Their meals are, as a rule, very simple; many course dinners are not eaten by them.

5. They do not in most instances have an abundance of foods, except, perhaps, at certain seasons, so that overeating and sumptuous fare is rare to non-existent among them.

6. Mothers among *modern primitives* nurse their infants and children for prolonged periods and do not depend upon the animal kingdom to nurse their offspring for them. Savage mothers are, as a rule, very attentive to the needs of their offspring, loving them as much and as deeply as civilized mothers love their children.

7. As a rule, to which there are few exceptions, the native diets of savages are adequate to sustain them in health and vigor; whereas, when the refined and processed diet of civilization is introduced among them, they suffer greatly from malnutrition. The teeth of these primitives are sound on their native diets and rapidly decay on civilized diets.

8. Several tribes of the present exist under circumstances that provide them with insufficient and inadequate food, so that they suffer from the resulting malnutrition. There must have been similar examples of deprivation and want in the life of prehistoric man, for he wandered far and wide over the earth and met many different circumstances.

When it is said, as André Missenard does say, that "The primitive eats practically anything that lives, from the herbivorous animals down to the insects and grubs which he makes into pap," this must be taken as a statement of the eating habits of "primitives" in the

generic sense. No single tribe of primitives has such catholic food habits. He adds that: "His eclectic taste extends to creatures of the sea and also to all parts of the beast he considers edible." The last part of his statement implies that there are beasts which he does not consider edible, a fact that is true of all primitive tribes. He adds that "While the civilized palate seems to prefer muscle tissue, the primitive eats everything, especially the internal organs." By thus eating the internal organs and not confining himself to the fat and muscles, the *primitive* secures a more adequate food supply. Especially do these internal parts supply more minerals and vitamins and often, better proteins. Muscle proteins are not adequate as Berg has pointed out; animal protein is adequate only if the entire animal is eaten.

Missenard adds that: "All primitives eat vegetable as well as animal matter. And where plant life is scarce, as in the Arctic, the Eskimo will hunt his vegetable diet in the very stomach of the reindeer he has killed," a fact which reveals the vital importance of vegetables, even when the whole animal is eaten. To follow Missenard a little further, he says: "Primitive man does less cooking than his civilized brother. He eats many fruits and vegetables raw, as he does eggs and milk." Many islanders eat their fish and other sea foods uncooked. Before the discovery of fire and perhaps, for a long period thereafter, man ate all of his foods uncooked, just as the animals still do.

Although we find sunbathing practiced by certain modern *primitives*, especially in certain diseases, in a great part of the world, the "natives," as we disdainfully call the indigenous populations of many parts of the earth, may be seen nude or nearly so most of the year. They, like their primitive forebears, get the sun as a regular part of their daily living without having to set aside special times and places for sunbathing.

Among modern savages much attention is paid to cleanliness of the body. Although a few modern savages are not noted for cleanliness, most tribes are scrupulously clean, bathing often in rivers, lakes and oceans. Anthropologists tell us attention to bodily cleanliness is universal among them. If this may be accepted as a valid criterion, as anthropologists commonly think, we may say that prehistoric man bathed and kept himself clean; that neglect of bathing, as in the Middle Ages, and until recent modern times, was not a primitive trait. I would again stress in this connection, the fact that a knowledge of the value of cleanliness and of the evils of uncleanness long antedates the origin of the medical profession, and that, although the ancient priesthoods enjoined cleanliness, the value of cleanliness was recognized by man long before there was a priesthood.

The prohibition against urinating or vomiting into a stream that is found among many of our living primitives would seem to be an empirically discovered means of avoiding contamination of the water

supply and not an instinctive practice. It would be interesting to know just how far back in time this prohibition originated and how much of the body of primitive man practiced it. The prohibition found among certain modern primitives against drinking water from a tap may not be an instinctive practice, but may come under the heading of empirically discovered knowledge. It may^{*} be only a magic tabu. This remains to be determined.

Apparently every possible form of sexual activity is practiced by these modern primitives, as they are practiced, also, in civilized life. Few of them are universal, some of them being found among certain tribes and others among other tribes. In civilized life none of them are practiced by all men and women, and most of them are conventionally condemned. There is nothing in the nature of man nor in the nature of many of these practices to indicate that they are essential to his survival and there can be no doubt that many of them are definitely harmful—harmful mentally, physically and socially. Many of the sexual and marital practices of savages are of magical origin. Circumcision, for example, which is a widespread practice, grew directly out of magic requirements and has no relation either to man's sexual needs or to those of hygiene. Pubertal rites are of magic origin, as are many of the rites that accompany childbirth.

Comparative studies of reproduction among modern non-literate tribes have shown that these are commonly more moral than many of the most civilized communities. There seems to have been a decline in natural virtue rather than a primitive immorality of man. Of 44 primitive peoples studied, pre-marital coitus does not occur in 26. Extra-marital intercourse does not occur in 28 out of 36, and is almost invariably severely censured when it does. Coitus during pregnancy is not practiced in 21 of 29, which shows that continence is a natural possibility and gives the lie to the psychiatrists who insist that mental disease is the price of abstinence. Obviously, if men and women are to live together for years or for a whole life time, periodic continence is indispensable.

We discover as many abnormal and unnatural practices among savages as among the civilized. The Native Americans' *use* of tobacco and coca are examples that come readily to mind. Many savage tribes have recourse to fermented drinks as freely as do civilized men. A study of the lives of savages, however extensive, cannot provide us with a clear picture of the life of primitive man, for the reason that, however much of primitive life they may be assumed to have retained, they have also accumulated a heavy load of magical and superstitious practices and of habits that had no place in the life of primitive man. It is impossible to determine what is the normal sexual life of man by studying his many and varied sexual practices, as these are carried out by the various tribes and races of man. Their sexual habits are as

variable as their dietary customs and they cannot teach us what was the sexual life of primitive man.

If we attempt to establish a human norm of sexual conduct by studying the sexual life of wild animals, it will be necessary to study the sex life of those animals that are nearest to man in structure and function—the higher anthropoids—and we know precious little of their sex life in the wild state.

At this point it may be well to emphasize a fact that has been more or less ignored up to the present; namely, that man is more than an animal. So far we have considered him as an animal, living and meeting the exigencies of existence as an animal. That he is an animal admits of no doubt. He possesses organs, nerves, blood, muscles, bones and brain similar to other mammals; he develops similar diseases, is host to similar or the same parasites, feeds, grows and matures under the same conditions that other animals do, experiences pain and pleasure from the same kinds of bodily contacts with his environment, and perceives by means of similar sense organs. He sees with eyes, hears with ears, and smells with a nose as they do.

But there are several marked differences between man and the animals beneath him that set him apart as quite clearly a distinct and different type of being. His body differs far more radically from that of the highest ape than that of the ape differs from that of the horse or cow. He is an animal but he is not related by blood ties to any other animal. The texture and quality of man's hair, the shape of his nose, lips and back, his upright posture, the peculiar shape of his feet and his style of locomotion, the peculiar shape of his teeth and jaws, his greater breadth from side to side, the length and opposable power of his thumbs, his exclusive ownership of a chin and non-projecting canines, the size and greater complexity of his brain, the way he speaks and the fact that he develops types of disease that are peculiar to him, all help to set him apart from the rest of the animal kingdom.

Man's body is quite similar in structure and function to that of the higher apes, but the differences in the two types of organisms are great enough and radical enough that they set the two families apart. The differences between the body of man and that of the highest ape, living or fossil, are radical enough to separate them into distinct biological families. Man is not an improved ape; he is not descended from the ape. This accounts for the fact that biologists and paleontologists have been unable to discover an ape-ancestor for him. The earliest fossils of man are those of man, not of intermediate forms. He appears suddenly in the geological record, as though he has no antecedents.

For the reason that man is not an ape, no study of the normal sexual life of the ape in his wild state can give more than hints as to what man's normal sexual life should be. We certainly should not

attempt to place the sexual life of man on the same level with that of any other animal; it should possess a dignity of its own which that of the animals lacks.

The care of the sick among modern savages, before they were debauched by their civilized neighbors, was in the hands of the medicine-man or priest. His magic rites were the same as those found in ancient Egypt and Babylon. He rarely resorted to what may be classed as "internal medication," but relied upon his incantations and charms as faithfully as did the ancient Greeks and Romans. Acutely ill savages do fast and we do find fasting practiced among many savage tribes for various reasons, most of them magical. What is called "primitive" medicine, as practiced among these peoples, is the same kind of magic that was employed by ancient civilized peoples before they evolved the system of drugging that is now called medicine.

Our considerations of modern savage life indicate that, in great measure, it closely parallels what appears to have been the life of prehistoric man. In certain particulars it would seem to parallel the immediate prehistoric period and not that of the more remote periods of human existence. Before the coming among them of physicians from civilized nations they survived under a wide variety of circumstances, many of them definitely opposed to the highest condition of human welfare, by dependence upon the primal sanities that guided primeval man. They place much dependence upon the obviously useless ceremonials of the medicine-man. Certainly when a sick savage recovers and nothing more has been done by the medicine-man than to rattle a gourd filled with pebbles or to dance around his wigwam and chant prayers to the spirits, he recovers, as do civilized patients, by virtue of his own inherent restorative powers.

IT IS GOD THAT HEALS

Chapter 10

In the opaque language of inspiration, in the 103rd Psalm, David says: "It is God (Jehovah) that healeth all diseases." This is precisely the idea of healing that was promoted by the priesthood in all the nations of antiquity. In Sumer, in Egypt, in Babylon, in Crete, in Greece, in Phoenicia, in Rome, this idea prevailed. They did not all worship the same god or gods, but they all had the same idea about healing. Nor should this seem strange. So long as it was thought that the gods regulate and personally execute all terrestrial phenomena down to the minutest detail, and that the phenomena of disease were evidences of an interference by supernatural power in the functions of the body and the conception prevailed that human art is to no purpose in any case of disease, and aid must be found with the gods, no other logical plan of caring for the sick is conceivable. Our ancestors were as logical as we, even if their premises were such as are no longer acceptable.

As god produced disease and he alone could avert it or remedy it, it was only logical that the priesthood should be the intermediaries who would appeal to the gods for succor for the sick. Doubtless the priesthood arose by easy stages out of some primitive social task, such as that of the fire tender or that of observer of the passage of the seasons, a function sometimes entrusted to the oldest and wisest members of the tribe or even to a single family. The primary duty of the priestly class in Sumer, Egypt and distant Yucatán was that of custodian of the calendar. The offices of the priestly class must have increased with the passage of time.

The god Hea, both with the primitive Akkadians and their Assyrian successors, was the Lord of Life and Grand Master of "the mysterious Rite, the formula, the all-powerful secret word, which would thwart the efforts of the formidable powers of the Abyss." Sayce says of Hea that "He was emphatically the god of healing, who had revealed medicine to mankind." His son, Merodakh (the Bel of Babylon) was revered as the Prince of Light, the Conqueror of the Dragon, the Redeemer of Mankind and Bestower of Life. As he was the divinity of the planet Jupiter, the custom arose of placing his symbol at the beginning of magical formulae, as a prayer for benign offices. The practice of placing his symbol on drug prescriptions is still in vogue. Here is one of the prayers addressed to him:

Merciful one among the gods,
Generator who brought back the dead to life,
Silik-mulu-khi, the king of heaven and earth,

May the invalid be delivered from his disease,
Cure the plague, the fever, the ulcer.

Silik-mulu-khi is an Akkadian name of Merodakh signifying "The one who brings good to human beings." He is petitioned to cure in the translation. Translators are prone to inject later meanings into ancient terms, thus confusing both themselves and their readers. Both Hea and Merodakh are depicted with the fir-cone in one hand. The fir-cone was supposed to be possessed of healing and magical virtues and was employed in religious and magical ceremonies. Assyrian sculpture pictures the Tree of Life as having cones like those of the pine and fir and these cones were placed upon the wand or *thyros* which was borne in religious processions. Either this symbol or an image of Hea or Merodakh was placed, one on each side of the door of the room of the sick, and sacred texts were hung about the room and head. Incantations, like the following, were employed:

Disease of the bowels, disease of the heart,
The palpitation of the heart;
Disease of the vision, disease of the head,
Malignant dysentery;
The humor which swells,
Ulceration of the veins, the micturition which wastes,
Cruel agony which never ceases,
Nightmare,
Spirit of heaven, conjure it,
Spirit of earth, conjure it.

It is obvious that the translator has played fast and loose with this invocation and has employed words to translate the ancient text that convey to us meanings the text did not possess. For example, the humoral hypothesis, which had its origin in Greece, did not arise until centuries after this incantation or invocation was uttered. More honestly, the translator used the word conjure instead of the word cure with which to translate the request of the Akkadian priest.

Although some medical "historians" assert that the Babylonian priests employed herbs along with their astrology and incantations, they taught their patients to believe that their recovery was wrought by divine operation. If they thought that "it is the gods who heal," they must have employed herbs, if they ever employed them, as part of their incantatory rites. Efforts are made by historians to show that pharmacy was an art among the Assyrians, but the examples of the pharmaceutical art with which they supply us are examples of the mixing of a wide variety of substances to be used in incantatory rites. They attempt to rationalize their foolish effort to create an ancient pharmacology by reminding us that anciently, the various branches of "learning" were not differentiated as they are today, so that medical knowledge (sic) was included with astrology (they commonly say astronomy), religious worship and magical lore.

It seems that the idea that diseases are due to invasion of the body by evil spirits arose at a later date. God preceded the devils, as the cause of disease, and prayers and sacrifices preceded the rites of exorcism as means of recovery. Evil spirits may have been an after-thought. A theo-etiology necessitated a theotherapy, and this was everywhere provided by the priestcraft. *Divine* healing, as we call it today, was the first *healing* man employed. The gods visited the temples and performed their healing work. Perhaps, initially at least, they healed outside the temples.

In answer to Zoroaster's question: Who was the first man skilled in healing, the all-wise and powerful god Ahur'mazda replied: Thritha. Thritha had besought the giver of all good to make known to him the means of dealing successfully with disease. Ahur'mazda adds: "Then, I, who am Ahur'mazda, brought into existence the healing plants, many and many hundreds, many and many thousands, many and many tens of thousands, and with them the glorious one Gokarene—the white hima or tree of life—giving health to the bodies of men... I counteract sickness; I combat pestilence; I resist pain, fever, the putrid ulceration, the foulness, the malignant eye which the Evil spirit inflicts upon human beings—every disorder and mortal ailment, every sorcerer and witch, and every malign influence."

If god heals all diseases and counteracts every evil influence, if he combats the evil sorcerers and witches, and combats the evil spirit with his "malignant eye," one naturally wonders what need there is for a pharmacopeia that possesses even more drugs than that of modern medicine. It is most likely that all of these herbs crept into the reply of Ahur'mazda to Zoroaster's question long after the death of Zoroaster. The Parsees took their *Vanidad* with them to India and introduced its beliefs and practices among the Hindu tribes. Magic moved eastward, but magic had reached India earlier as their own sacred books indicate. The *Yajur Veda* is a medical treatise. Part of it is ancient, part of it is commentaries by late writers. When historians tell us the sacred books of the Hindus indicate a very thorough conception and knowledge of the healing art, they place these ancient people ahead of the healing professions of today. Their loose talk is deplorable, but they are determined to create a medical profession out of the fragments of ancient magic they grubble from the shards and middens of ancient lore.

Ahur'mazda tells Zoroaster: "I am the healer, it is I who counteracts diseases and pestilences; it is I who resists pain and fever and ulcerations; it is I who protects against all evil influences." Not only were the gods the first healers, but they continued to be the real healers long after the rise of those religious systems that devoted their time to the care of the sick. The temples were often a kind of sanatorium where the means of restoring the sick to health had been revealed by the guardian divinity of the shrine.

The Assyrian priests of Gibel claimed mystical power over disease, while the Egyptian priests thought they could have actual communication with divinity and they believed that the most salutary physical results might be obtained from such communications. The prominent gods of healing of the Egyptian pantheon were Isis, Osiris, Thoth, Hermes, Phthra, Imhotep and Serapis or Serapeon. It was in the temples dedicated to these gods and goddesses that the Egyptians sought to be healed when they were ill. When they recovered, it was their thought and they were so taught by the priesthood, that it was the god or goddess who had healed them. All ancient peoples who have left us records of their activities and thoughts had their healing divinities and they all thought, originally, at least, as did the Homeric Greeks, that the "sending of disease to mankind" was a special act of the immortals.

Moses deals with leprosy in the 13th chapter of Leviticus and regarded prayer as the chief means of recovery. All through the Old Testament, disease is pictured as an infliction sent upon the people by God for their transgressions. Miriam murmured against Moses and was struck with leprosy, of which she was not freed until Moses prayed to God to restore her to health. A revolt of the people resulted in an epidemic which destroyed 14,700 men and did not abate until Aaron, the high priest, had offered up incense. The Levites alone knew how "to treat the lepra." They isolated the patient, bathed him frequently and offered up expiatory sacrifices.

Among the Romans the practice prevailed of looking to the deities, of which, it is said, there was one for every disease and, indeed, one for every stage of every disease. As has been stated: even the itch was not without its goddess. Haggard says that The Romans were without systematized medicine, and that they had, instead, systematized superstition. Call it superstition or call it religion, the fact is that the Romans, like all other peoples of Antiquity, believed that "it is god that heals." If it is superstition to believe that it is god that heals, and rational to believe that "it is poisons that heal," the Romans were superstitious and the Greeks initiated the evolution of a "rational system of medicine".

Among the Romans Febris was goddess of malaria, Scabies was goddess of the itch, Angine was goddess of quinsy, Mephitis was goddess of stench, while there were several goddesses who presided over childbirth. Juba watched over the girl throughout her courtship, Domiducus accompanied her home with her husband, Cinxia loosened her girdle, Virginensis guarded the act of deflowering, Pertinda supervised the first coition, which was pleasurable only if Volupia willed it so; after conception, Fluonia stopped the menses, and Mena, the goddess of menstruation took a journey; Rumina caused her breasts to swell, Alemona fed the embryo, Ossepaga hardened its bones,

Antevorta presided over head presentations while Postvorta looked after breech presentations; Intercidona guarded the navel, Partula fastened the binder, Vagitanus opened the infant's mouth for its first cry, while it was taught to suckle by Educa. The Fates hovered about and if anything went wrong, Orpigena, the divine midwife, was appealed to. Directly descended from this polytheism is the polysaintism of the church, the saints taking over many of the duties formerly performed by the gods.

We may ask ourselves: did the sorcerer precede the priest or was the priest first and did the sorcerer come later? I doubt that we can give a completely satisfactory answer to this question, but, so far as history and myth reveal, the two were one from the beginning and are separated in our minds, not so much as a fact of ancient history, but as a modern innovation. It is certain that only part of the truth is contained in the statement that "myth survives in the creeds, magic in the sacraments." The sorcerer is still with us and the priesthood has never surrendered its ancient prerogatives.

Let us turn to the Greeks. Of these people one medical historian says: They thought the deity could avert or cure disease. "It is Apollo or Aesculapius that heals," is the Greek equivalent of David's statement. All the rites and ceremonials of the Greek priesthood, as of the other priesthoods, were designed to gain the favor of the deity and to persuade him to heal the sick. Homer reveals that the Achaean Greeks, like other ancient peoples, thought that disease is an infliction by the deity. Agamemnon had been given, as a prize of war, the daughter of a priest of Apollo. The priest had pleaded with him to restore his daughter to his household and was rather roughly treated by Agamemnon. The priest appealed to Apollo, who became very angry over the treatment accorded his priest. In his wrath he sent a pestilence upon the Achaean army (the gods were always punishing the wrong people, as Jehovah punished the people of Egypt for the sins of Pharaoh) and the death-toll was high. In the *Iliad* we are told: "For he (Apollo) in anger at the king (Agamemnon) sent a sore plague upon the host, that the folk began to perish."

Hesiod in *Works and Days*, has presented us with a similar thought:

But o'er the wicked race, to whom belong
The thoughts of evil and the deed of wrong
Saturnian Jove, of wide-beholding eyes,
Bids the dark signs of retribution rise:
States rue the wrongs a sinful man has done,
And all atone the wickedness of one.
The god sends down his angry plagues from high,
Famine and pestilence; in heaps they die.
He smites with barrenness the marriage bed,
And generations moulder with the dead.

The deity could send disease, he could avert disease, he could restore the sick to health. The Achaeans were informed, by means of one of their own sooth-sayers, that: "before he (Agamemnon) gives back the maiden the god never shall drive away the pestilence." Apollo had sent the disease upon the Achaeans and he, and he alone could heal them. So long as disease was thought of as an expression of the wrath of angry deities, there could be no thought of recovery through means other than those that tended to appease the wrath of the gods. Hence, Homer tells us that the Achaeans, after washing themselves in sea water, offered, with much pomp and ceremony, sacrifices and supplications to the wrathful god. "They brought a hecatomb of oxen and goats which they sacrificed near the seashore to the god Apollo, and the smell whirled in smoke heavenward." That the smoke ascended means that, like the smoke of the sacrifices of the Jews, the sacrifice went to the god.

Dunglison tells us in his *History of Medicine*, of the care given to the sick at a much later date in the Asklepiian temples, that they "clearly prove that all diseases were regarded as the effects of the anger of heaven, and the gods alone could consequently cure them." He further says that the care of the sick, "closely connected with the adoration of the gods, was everywhere a species of secret and mysterious worship. Left exclusively to the priests, it was with the Egyptians as with the Greeks, with the Romans as with the Hindoos, a tissue of absurd juggleries, a system of more or less refined imposture, by the aid of which the ministers of religion amused themselves with the credulity of the profane."

Whatever else we may think of the impostures of the priestcraft, and these were legion, I do not think that they were merely amusing themselves. Theirs was a system of exploitation everybit as despicable as the exploitation of the sick carried on today by the medical profession with its more numerous impostures. That they gave far more attention to hygienic considerations than the medical profession has ever done is certainly to their credit. In Volume 1 (page 52) of his *Encyclopedia*, Dr. Trall says: "The ancient priests and monks placed their patients in airy, salubrious situations, enjoined strict abstemiousness or the simplest food, gave water to drink, and prescribed sufficient washing or bathing for thorough cleanliness and then performed their magical ceremonies. Their patients recovered: 'Nature worked the cure and the doctor got the credit.'" Except that they were priests and not "doctors" and that they gave all credit for the patient's recovery to one of the gods, this statement is historically accurate.

In his account of what he saw and experienced in the temple, Pausanias details the extent to which the priests played upon the imaginations and credulity of the sick, to whom everything was

represented as coming directly from the hands of the god. All the healing was done by the gods. A priesthood cannot practice medicine if it is the god that does the healing. Healing was not done by the substances employed in the ceremonials, whether they were herbal or animal. It is ridiculous to say that they gave "medical treatment under theurgic guise," for they gave no medicines. They employed hygiene, which they had preserved from prehistory. Even the effort of medical historians to convert their religious ceremonials and mystic rites into forms of psychotherapy, by saying that they impressed the imaginations of the sick, is to attribute healing to the imagination, a ridiculous thing to do.

A medical historian makes the following asinine statement: "In remote antiquity he (the sick man) invoked his god; in the middle ages he touched holy relics or the hand of priest or king; from the beginning, even till today, man has placed implicit trust in the mysterious efficacy of medicine, 'drugs.'" To thus equate man's religious practices with medicine or drugs in an effort to provide the medical profession with an ancient pedigree is dishonesty of the worst kind. Prayers and incantations are not drugs, except in the sense that they are the "opiates of the people."

If we assume the correctness of his statement that "from the beginning, even till today, man has placed implicit trust in the mysterious efficacy" of drugs, we are still faced with the question: Was his faith in drugs any more solidly based than was his faith in Apollo? Is *medicine* a science, as medical men persist in insisting, or is it a faith? There is the further question: If drugs are possessed of "mysterious efficacy" why is it so necessary to change from one drug to another so often? What causes their loss of efficacy?

Few ancient ideas have ceased to be believed by mankind. We shall not forget that but a few short decades ago the church sang:

Diseases are thy servants, Lord,
They go and come at thy command.

Ministers of the Gospel at funeral services were fond of quoting Job's statement that it is God who giveth and God who taketh away. They had God killing the young and the old. It must be confessed that the idea is far from dead, even in enlightened circles. In backward regions of the earth, the idea is even more firmly held.

EDEN'S GOLDEN GLOW

Chapter 11

I want to again stress the fact that prehistory and early history constituted a continuum; there was no radical break in the ways of life of the people at the time of the invention of writing. Indeed, it is hardly likely that the invention of means of recording events, ideas and laws made more than a faint ripple on the waters of custom and convention. Prehistoric man went to bed one evening and awoke next morning to find that he had become historic man, but he made no changes in his way of life. He continued to raise the same crops, eat the same foods, live in the same old house, wear the same clothes, work at the same job, worship the same gods and rely upon the same priesthood. What he had been doing before men began to record history, he continued to do after the scribes came into being. All of this is to say that, instead of wiping the slate clean and beginning all over again, with a completely new set of institutions, a completely new set of ideas and practices, and a completely new mode of life, historic man merely continued the institutions, ideas, practices and ways of life that prehistoric man had built up.

We may logically assume that the care given the sick in the early historic period was the same care that had been given the sick in the prehistoric period. The care of the sick underwent no radical change the day history dawned. To state this a little differently, whatever care the sick had received in the prehistoric period was continued over into the historic period and was carried on for a long time parallel with any new innovations that may have originated subsequent thereto, before it was permitted, gradually, to fall into desuetude. That what man received from prehistory was a mishmash of good, bad and indifferent, of wise and foolish, of useful and non-useful, is evident to any student of early history. Early history was late prehistory, so that only one problem confronts us: namely, *how far back into prehistory are we justified in projecting what we find at the dawn of history?* Myth and tradition may assist us some in answering this question, but not greatly.

There is one feature, however, of the life of man that we may safely push as far back into prehistory as we can trace man. We should not find it difficult to establish an unbroken continuity of hygienic practices from the dawn of human life on the earth to the present. We have already seen that these practices are the very warp and woof of animate existence and that at no time in his entire career could man ever have completely neglected them and continued to live. If it is not true that the Hygienic means employed by the people of different

ancient nations are continuations of prehistoric practices that were common to the human race from the very beginning of human existence, why the marvelous simplicity and unity of the basic practices of all peoples?

Man may have, on occasion or under certain circumstances, ignored the need for pure air and tried to get along on polluted air; he may have wandered far from the best diet for his requirements; he may have taken mineral instead of pure water; he may have neglected the need for sunshine or for activity or for adequate rest and sleep; he may have neglected cleanliness, etc., but he has always been forced by the very necessities of existence, to comply in some degree with the Hygienic ways of life. By his deviations from the straight and narrow path of Hygienic rectitude he has built much suffering for himself and has shortened his life, but he has never been able to completely abandon the normal ways of life, even though bidden to do so by the priest and the physician.

A study of the care the sick received in early history should provide us with a knowledge of the care they were given before the dawn of history. For obvious reasons I shall follow the record largely left us by the Greeks, supplementing this with occasional references to the care provided the sick by other peoples. Greek history begins hazily in the stone age and comes through the bronze and iron ages in a more or less unbroken line, hence we have a graphic picture of early history, which is practically identical with prehistory. At the dawn of history, what the historians insist on calling Greek medicine was a curious mishmash of (1) instinctive practices, (2) ideas and practices man had acquired from experience, these largely palliative procedures, (3) religion and magic, and (4) surgery, principally knifeless surgery.

But, to begin our story, we must go back into the hazy prehistoric period of which man's traditions give us a blurred account. Steering as cautiously as possible between the Scylla of over reliance on tradition and the Charybdis of hypercriticism, we must follow the ancient story in brief.

Chiron is credited with first having introduced medicine into Greece, although his pupil, Asklepios, is credited with having been the first to cultivate medicine as a science and with having made it a distinct object of pursuit. Chiron, probably a prince in Thessaly, is thought to have lived in the 12th century B.C. He was seen so often on horseback that the fabulous account of his compound form, that of half horse and half man (Centaur) grew up. With the myths surrounding Chiron we are not here concerned. We are concerned only with the fact that he was the teacher of Asklepios, although the source of his medical knowledge is a deep, dark secret.

After the custom of the ancients of having their great men sired by a god and born of a virgin, Asklepios (Latin, Aesculapius)

was the son of Apollo by the virgin Coronis. When he was born his mother left him to die, where he was found by a shepherd boy who took him to Chiron, who reared him and taught him his knowledge of medicine. Coronis proved to be a fickle virgin and was slain by Diana, the sister of Apollo, because of her unfaithfulness. As virgin-born sons of god were frequent in ancient populations, it is not surprising to learn that Asklepios was of such distinguished parentage. Nor should it surprise us to learn that, at a later date, there was a struggle between the devotees of Asklepios, and the Christians, to determine who was the true healer and savior—Jesus or Asklepios. The Platonic philosopher Celsus, disputed the question with Origen, the latter declaring Jesus to be the true healer. What more appropriate than that at Epidaurus, where stood one of the most famous of the Asklepiian temples, which possessed an altar for sacrifices, halls in which the sick could sleep and wonder-working springs in which they could bathe, prayers are still said at one of the springs, although the light that burns there unceasingly is dedicated to the Virgin Mary and not to Asklepios. We scoff at the superstitions of ancient peoples while carrying on the same practices.

Epidaurus, the supposed birth place of Asklepios, which was located on the east coast of Peloponnesus, about thirty to forty miles south of Corinth, was the chief seat in Greece proper, of the worship of Asklepios. Here a great festival, with processions and combats, was held every five years in his honor. In Homer and Pindar, Asklepios was no god, but a hero, a cunning magician and the father of two heroes of Troy. As a magician he accompanied the other hero-gods on the Argonautic expedition. Greek writers describe him as performing magic and mesmeric procedures in his care of the sick. As Homer and Pindar do not number him among the gods, his apotheosis must have taken place long after his death. Arctinus, a successor of Homer, was one of the earliest to elevate Asklepios to the dignity of a god.

If we could divest Asklepios of all the myths that have grown up about him, we would probably find an extraordinary man. Divested of the fabulous appendages attached to him by his worshippers, he appears to have been born at Epidaurus (some mythologists think he was certainly of Asiatic origin), to have been exposed in infancy, probably because he was an illegitimate, was accidentally discovered by a shepherd and was placed in the custody of Chiron. As we shall see later, Chiron was probably, among other things, a masseur.

Asklepios was twice married. His second wife, Lampetia, was the daughter of the sungod. He had two sons, Machaon and Podolarius, who accompanied the Greeks on the Trojan expedition. Homer's references to them indicate that their practices were principally confined to the treatment of wounds. "Internal diseases" were still conceived of as being inflictions of the deities and were

"abandoned as incurable" or were to be obviated by incantatory rites. The arts of magic formed a large part of the treatment of wounds administered by these two young men. Asklepios seems to have had several daughters, three of whom were partakers of the divine nature. There was Hygieia (health), who became the goddess of health; Panakeia (Panacea or All-healing), who became the goddess of healing; Telesphoros (fullness-bringer), who was the deity of recovery, and was usually pictured as a boy. As a boy he was the god of convalescence. There was another daughter, Algaia (radiant virtue), who seems not to have been apotheosized.

Asklepios was deified, after his death, as the god of healing, thus supplanting, to a great extent, his father, Apollo, who was also the god of healing and who, according to some of the myths, was the one who taught the arts of healing to Asklepios. Greek myth also had a goddess of healing in addition to Panakeia. She was Artemis. This plurality of gods performing the same function is not unusual in the myths of the past. As the Greeks had more than one god of healing, so, also, they seem to have had great difficulty in deciding who it was who created the "art of healing." It seems that each writer was at liberty to ascribe this feat to whomsoever he wished, and to ascribe to him whatever of virtues and whatever discoveries he desired. Certainly, as they were creating myths and not writing history, this seems a logical procedure. Greek writers of antiquity tell us that Chiron required of his patients that they exercise strenuously, but this practice may have been credited to him by his admirers long after his death and may not have been among his practices.

Plato and later Galen both say that Asklepios created the "art of healing," thus robbing Chiron of credit for the doubtful creation. Poor Chiron! Some of the Greeks even robbed him of the honor of having been the teacher of Asklepios. They tell us that he was instructed in the arts of medicine by his father, Apollo, the god of healing, who instructed him in these arts from childhood. To sift the certain from the uncertain in all the mass of tradition and myth that cluster about him is not possible. Cicero (60 B.C.) credited him with having invented the catheter. This hardly seems probable. He is said to have re-united the parts of the torn body of Hippolytus and to have restored him to wholeness, perhaps the first case of organ-grafting on record. This story we may discount entirely. Early Greek writers attributed to him the things they themselves endorsed and omitted to attribute to him the things they rejected. Thus, Pindar presents chanting, internal potions, external applications and incision among his agents, while, at a much later date, Galen says he used to supplement his art with mild exercise and incantations.

His death, said to have been caused by the jealousy of Pluto, because he was rescuing too many people from the grave, would

indicate that he was very successful in his care of the sick and wounded, although it seems that Pluto was angered because he was bringing back the dead to life. By his post-mortem deification, an honor conferred by the ancients upon extraordinary men and women, he became the god of healing and temples were erected to him in various parts of Hellas. Once deified, worship of him extended all over Greece and its islands and colonies.

Asklepios is represented as carrying a rod around which wound a snake, the symbol of rejuvenescence and prophecy. He was thought to frequently reveal himself as a snake and for this reason, snakes were kept in the Asklepiian temples. The most common sacrifice offered to this "god of healing" was a cock, hence the request of Socrates, after drinking the hemlock: "Now let us sacrifice a cock to Asklepios." The priests of the Asklepiian temples styled themselves Asklepiadae—Sons of Asklepios. The priesthood was hereditary and their secrets were transmitted from generation to generation.

At this point it may be well to introduce another of the ancient gods. Dionysus, also known as Bacchus, among the Greeks, was also a deified man who had, according to the legend, been instrumental in rescuing the prehistoric Greeks from self-imposed ruin. The mysterious and sacred cult of Bacchus reached back into the remote prehistoric age of Greece. Deification of the great is a post-mortem honor that is often long in being bestowed. Often too, as in the case of Dionysus, the elevation to the place of honor is by degrees and not all at once. In Homer Dionysus is not one of the great divinities.

Starting as a wild man of the woods, who wandered into the midst of the Greeks at a time when they were suffering both physically and mentally, he taught them to eat fresh, uncooked foods, fresh fruits, fruit and vegetable juices, raw flesh and honey. His titles *Omestes* and *Omophages*, epithets often applied to him and to his devotees in scorn, signify raw flesh eaters. He was also called *Hygiates*, the healer, and *Lucaios*, the releaser from ills and woes.

It is noteworthy that Dionysus, whom the Greeks worshipped as their savior, was the "only begotten son of god" (Zeus) by Semele, and that, after he had made his divine nature known to all the world, he led his mother out of Hades, called her Thyone, and rose with her to Olympus. The recently adopted dogma of the Roman church that Mary, the mother of Jesus, did not die, but was taken bodily up to heaven, is not essentially different from this older Pagan myth. The Greeks referred to Dionysus as their Savior, Healer and Liberator.

In the course of time, other discoveries became incorporated, through tradition, in the original teachings of this genius, who had been deified, so that even the names of the later discoveries became absorbed into his own and became identified with it. Among his many titles was that of *Dendrites*, because he was the cultivator and

protector of trees in general and of the grape vine in particular. The eating of fresh fruit was one of the earliest practices associated with his doctrines and his hygienic practices. He is credited with having introduced the Greeks to the practices of drinking fermented honey (mead) and fermented fruit juices (wine), but these practices may have come after him. Homer fails to mention him as the discoverer of wine, an omission that may be of no consequence or it may mean that, at a later date, he was credited with this discovery. It was the practice of ancient peoples to attribute discoveries and teachings to their predecessors, once a towering personality had been stamped upon the minds of their remote ancestors. The fact that the frantic orgies connected with the worship of Dionysus were introduced somewhat late in Greek history seems to me to mean that, in his earlier phase, he was not the god of wine and sexual debauchery.

Wine and mead became invested with healing virtues and, consequently, became associated with the great healer. Revered as a great healer, some of the temples devoted to Dionysus were places where people went to be healed. It is noteworthy that his healing, so far as the myth reveals, was done with uncooked food and their juices. I have not been able to unearth any information that would reveal to what extent the feeding practices of the Asklepiian temples resembled those of the Dionysian temples, but I think that, in view of the great impress Dionysus made upon the remote ancestors of the Greeks and the manner in which they revered him, it may be taken for granted that there was considerable overlapping of the feeding practices of the two cults.

Both Asklepios and Dionysus were probably real persons around whom tradition wove many legends and with whose names subsequent events and finds were associated, just as happened sometime later with Pythagoras, who, unfortunately, was not deified. That both Dionysus and Asklepios were deified is not surprising, as the practice of deifying outstanding individuals was common in the ancient world—both prehistoric and historic. It was also common for their worshippers, lacking any authentic information about their paternity, to invest genealogies for them, usually having them born of a virgin and sired by a god. How else account for their extraordinary characters? It is as logical to account for the extraordinary characters of Asklepios and Dionysus by having them sired by gods as to account for the great strength of Hercules, even as an infant, by having him sired by a god. At a much later period, the Latin poet-philosopher, Lucretius, must have had some such idea in mind when, in his work, *On The Nature Of Things*, he wrote:

From out whose breast divine still thunder forth
Those sacred utterances that sound abroad
The clear truths he has found, til it doth seem
Scarce sprung from human stock.

Fortunately for the ancients, the gods were always close at hand to serve their every need. Today, having dethroned the gods, we are forced to rely upon the operations of metaphysical and unaccommodating "laws of nature." Is Greece better off today that Olympus is but a snow-capped peak?

To the Asklepiian, rather than to the Dionysian temples must we go to discover the care the sick received at the dawn of history. The Homeric epic is said to carry the worship of Asklepios back to about one thousand B.C., but he was not an object of worship in Homer. On the other hand, the cult is supposed to have been in existence much earlier than this date. If this is true, it may mean that the practices carried on in the temples far antedate the Trojan war; in other words, they may be much older than we think. If this is true, it means that temple hygiene is truly prehistoric in origin.

The Asklepiadae or priests who presided over these temples and directed the rites and ceremonials, were, like all other sacerdotal orders of ancient times, a secret order, having a free masonry of their own. It was an exclusive order, the members of which traced their descent to their god. Fathers taught their children in this oath-bound brotherhood, and any member of the order who violated the compact suffered the penalties of the outcast.

Asklepios was worshipped in groves, in mountains and beside "medicinal" springs. The temples dedicated to him were distinguished for their healthful locations on headlands, and lofty hills and near springs. Located in salubrious surroundings, they were religio-hygienic institutions rather than medical. They were much resorted to (as *sanatoria*) by the sick from all over Greece. John Robertson MacArthur says in his *Ancient Greece in Modern America*, that the "temples of Aesculapius were found everywhere in Hellas, especially in the vicinity of hot and mineral springs. The patients were given water cures, massage and exercise. Their diet was regulated. Indeed one would say that dietetics and moral remedies were relied upon rather than drugs. Psychotherapy was undoubtedly employed... Music was also employed." (In this connection we may recall that David employed music in an effort to remedy the madness of Saul). MacArthur adds that "around the temple (at Cos) there seems to have been a huge establishment, resembling a modern sanatorium." Even our "dream books," he informs us, come from the Asklepiian temples, an indication that they preceded Freud in attempting to interpret dreams.

Besides the religious and magical ceremonials employed, practices were enjoined that were chiefly dietetic, with temperance, cleanliness, rest, leisure and abstinence from certain kinds of foods among the requirements. The ancient Greeks lived with the scantiest of food and clothes, in the sorriest dwellings lacking both in ventilation

and sanitation, under conditions of the most severe deprivation and discomfort. A change to the temple was probably of great benefit without anything else being done.

Temples devoted to the worship of Asklepios were especially numerous in Peloponnesus. The temple at Epidaurus was the chief seat in Greece proper. In book 11, 531-M Strabo writes: "Epidaurus is not an unknown city; it is famous especially for the celebrated cures of Aesculapius, the god, who successfully cures all diseases. The temple there is crowded with sick people and its tablets there are full of inscriptions of cures, similar to those of Cos and Trikke." (Strabo probably used no term synonymous with the modern term *cure*). In Greek estimation, next to the temple at Epidaurus was the one at Pergamus, a colony from Epidaurus. Another that enjoyed a long-standing reputation was that of Trikke in Thessaly. Other famous temples were located at Delphi, Athens, Thebes, Tithoreas, Amphiarus, Titane, Triphonium, Cerine, Croton and Smyrna, although they were to be found everywhere in classical Hellas. As a rule the temples were dedicated to Apollo, Asklepios, Hygeia, Athena, Diana, Panacea, Cnides, Juno, Anophiarus and other deities.

The temple at Cos has become the most noted of the Asklepiian temples because it is here that the legendary *Father of Physic* is supposed to have been a member of the Asklepiadea. Cos is a small island off the southeast corner of Asia Minor. Rhodes is close by and here existed another Asklepiian temple. It is not surprising, therefore, that both these temples have been credited with having fathered the *Father of Physic*. In 293 B.C., the cult of Asklepios was carried to Rome by order of the Sibylline books. A much-frequented Asklepiian temple was established on an island in the Tiber, which was a sort of sanitarium.

The temples were known as Asklepieia (plural), a single temple an Asklepium, and dominated Greek life for well over a thousand years, lasting into the fourth century A.D. They were seats of healing, veritable strongholds of miraculous healing, the priests being credited with miracles of healing to be compared only with those of modern "faith cures," such as those at Lourdes and Tinos. The Asklepiadea were miracle mongers who played upon the human imagination with all the skill of a modern psychologist. All healing, these priests taught, was done by the god. Healing was not the direct result of their ceremonials nor of their incantations. The temples were essentially religious institutions, but they ruled the care of the sick and were mainly refuges for invalids.

But these temples were more than religious institutions. They were *Hygienic* institutions. In his *Devils, Drugs and Doctors*, Howard W. Haggard, M.D., says of the Asklepiian temples: "The means chiefly employed for the restoration of health were sunlight, fresh air, pure

water, exercise and diet," thus revealing that the care provided in the temples was the same means that primitive man had employed. That the Greek temples had provisions for ventilation, so that the sleepers could relax and sleep soundly, was not due to physicians.

The temples were elaborate structures, which, besides being located in salubrious surroundings, and in beautiful environments, were arranged to make the patient comfortable and to permit of relaxation and serenity. There were gardens, fountains, pools, and many kinds of trees and flowers. They had libraries, baths, stadiums, gymnasiums, guest chambers and comfortable beds. Robinson tells us that the temples teemed with "all the glories of Greek art—lovely Venus and laughing Bacchus, Zeus serene on his golden throne, and Aesculapius sorrowing for the ills of mankind. Fountains played in the shaded groves, and the shelter-seats were arranged in semi-circles of pure marble. And when hidden music floated over the southern flowers—the mingling of rhythm and perfume, the marriage of fragrance and melody—the sufferers raised their heads to repeat the prophecy of the Delphic Sibyl: 'Oh Aesculapius, thou art born to be the world's great joy.'"

Robinson says that the Asklepiian priests (strangely, he refrains from calling them physicians), were "naturally craftier than the populace" and thus they built their temples in spots favored by nature—"in the midst of a health-giving forest, by the side of a medicinal spring, on the brow of a lofty hill. The sight alone often served to bring the first smile of hope to the weary invalid." If these priests knew enough to recognize the helpfulness of beautiful surroundings, quietness, sunshine and pure air, they were far ahead of the *medical* profession of today. During the last century they located their hospitals amid the tan yards, slaughter pens and other places that emitted foul stench. Today they locate them in crowded cities, on busy streets where exist the greatest concentration of carbon monoxide and traffic noise, and they are as noisy inside as out. A modern hospital is like Grand Central Station—all noise and hubbub and is filled with smoking physicians, nurses, orderlies, patients and visitors. Soft drinks are sold on each floor and everybody guzzles these popular poisons. The stench of chemicals offends the nose, while tranquilizers substitute for quietness. It is to the eternal credit of the priests that they provided the pleasing perfumes of flowers instead of the foul stench of drugs, and the melody of music instead of the roar of buffing machines in the halls.

These temples were health resorts, not unlike those of today, to which statesmen, celebrities, and men of wealth went in search of rest and forgetfulness. Perhaps they were unlike many "health resorts" of the present, in that they were not places where the leisurely could go to continue their drinking, smoking and other favorite indulgences. It is

hardly likely, however, that the working class could afford such elaborate accommodations when ill, as those offered by the temples, and there is little reason to think that slaves ever entered these temples for care. If the temples could be patronized only by men of means, some other and less expensive means must have been employed in caring for the common people. What this was is not clear, but it may be reasonably assumed that the means of the temple found their way into every day life.

The descriptions of the healing programs conducted in the temples lead to the conclusion that these were frequented chiefly by chronic sufferers. The distances they traveled, the walks they took, the exercises they performed, the sacrifices they made, the massaging they underwent, the work of bathing in the warm and mineral springs and pools, the games and sports, and like activities could not have been carried out by acute sufferers. Patients with pneumonia and typhoid could not have undergone such care. Even the prayers they said were carried out under circumstances and in ways that the acute sufferer would not have found possible. The dietary programs, which commonly followed fasting, seem to have been designed for chronic sufferers.

Since writing the foregoing, I have come upon a statement by Pausanias that no patients severely ill and no pregnant women ready for delivery were permitted to enter the premises of the temple. It seems that late in Greek history provisions were made for the reception and care of pregnant women ready for delivery, although all deliveries were in the hands of female midwives; but there seems not to have ever been any provision made for the reception and care of severely sick acute sufferers. We have the testimony of Pausanias that "in later years, during the reign of Antoninus the Pius, a separate ward was built by him in which confinement was permitted and also the placement of the dead." If we may judge by the throngs of men and women who patronized these temples, there was much chronic suffering in ancient Greece.

It will not be amiss to ask: What were the means of care employed in these temples to which so many hundreds of thousand of Greeks retired in perfect confidence to be freed of their illnesses? If we read only contemporary history and look only at accounts of recent accomplishments, we may easily get the idea that the past is insignificant in comparison with the present, and that our ancestors were little more than animals. The fact is that the most important truths that we possess and the most significant practices of mankind are as old as life itself and that scientific research has done little more than confirm these. This fact is especially true in the care of the sick. At the very dawn of history, the care of the sick was actually superior to what the great majority of mankind receive today when ill. In Vol. 1,

page 34 of his *Encyclopedia*, Trall says: "The diligent student of medical history cannot fail to discover that the ancient and more ignorant practitioners were more successful in curing diseases than are the modern and wiser physicians. The remedial agents of the ancients were comparatively harmless, and, while they inspired their patients with a due degree of confidence and hope by the charms and ceremonials of magic and mystery, they really relied on judicious hygienic regulations to 'aid and assist nature' in effecting the cure. Modern intelligence repudiates the arts and incantations of a less civilized age; and in their stead has substituted the stronger potencies of modern invention, while the habits of living and thinking, with medical as with other men, have become so unnatural and artificial that, in managing disease, voluntary habits and hygienic agencies are almost wholly overlooked."

Besides their employment of hygienic measures, we may say of the practices of the temples that these were harmless and that they were not guilty of destroying or greatly abridging human life. Although much reliance was placed in the magical arts and some mechanical supports were employed, with the application of some external measures, these often being but parts of the magian's ceremonials, no internal "remedies" were employed. Trall stressed the fact that "we have no knowledge that Aesculapius, or his immediate successors, even conceived the idea of curing disease by drugs administered internally. Ablutions, bandages, fomentations, ointments, mechanical supports, and the application of balsamic substances, constituted their whole and their ample materia medica; and these were always employed externally." When they employed herbs, as they sometimes did, these were applied externally and, at the outset at least, were merely elements in ceremonial or incantatory rites. They were not regarded as being possessed of healing virtues, for it was thought that only the gods could heal.

Dunglison says of the mode of care employed in the temples, that it "clearly proves that all diseases were regarded as effects of the anger of heaven; and the gods alone could consequently cure them... The ceremonials and religious customs by means of which they endeavored to obtain, as a gift from heaven the restoration of the sick, varied at different periods. They were almost all, however, especially directed, in acute and simple diseases, to the excitement of the imagination and to the re-establishment of health by very strict regimen. The entrance to the temples of Aesculapius was interdicted to all those who had not previously undergone purification."

Although not all of the temples were erected near the sea shore and it is not likely that they all had sea water with which to purify their patients, sea water seems to have been regarded as especially potent for this purpose. Iphigenia in *Touris*, by Euripides, alludes to this

temple requirement in the following lines:

The law ordain'd in reverence we must hold,
First I would cleanse them with ablutions pure;
All man's pollutions doth the salt sea cleanse.

Whether the cleansing was regarded as a religious or a hygienic requirement is not always clear, but the sacrifices were definitely ceremonial requirements of the religious practices of the temple. The offerings—usually a cock, a young chicken, or other bird—were sacrificed to Asklepios. Sacrifices seem to have gone on in these temples as commonly as in the Temple at Jerusalem. The Greek god of healing was as bloodthirsty as the god of the Hebrews.

Dunglison lived at a time when modern Hygiene was still in its swaddling clothes. Neither he nor the other members of his profession gave any attention to the requirements of hygiene, nor did they regard it as of any special value in the care of the sick. Bleeding, puking, purging, blistering, depleting, stimulating, narcotizing—these were the sheet-anchors of medical care. He may be excused, therefore, for thinking of "strict regimen" as a religious ritual. Even bathing in the temples, he thought of as a religious practice. Perhaps it was, as religion was then the dominant force in the lives of the people, but it was nonetheless hygienic.

In the temples fasting, continence, relaxation, games and sports, with general Hygienic care were accompanied by suggestion, "magnetic healing" and ceremonials. Ablutions, diets, sunbathes and "temple sleep," sacrifices and prayers were all mingled in one system of care in the effort to restore health. Diet and gymnastics were employed from remote prehistoric times and it is asserted in Greek writings, even in those ascribed to Hippocrates, that therapeutics and healing were discovered as a result of man seeking to find a proper diet for the strong and the weak, for the healthy and the sick.

In the Hippocratic book entitled, *On Ancient Medicine*, the writer, whoever he was, traces the "discovery" of medicine to man's search for a suitable diet. His discussion, somewhat long-winded, is based on the stupid assumption that man, unlike the lower animals, had to learn what types of foods were best for him by trial and error, and was not led instinctively to seek out and eat those foods best adapted to his alimentary wants. He pictures early man as trying to eat the diet of the ox, as suffering greatly from such a diet, and as, slowly and by painful experience, learning which foods are best for him and learning how to process, bake and prepare these foods, thus "fashioning these to the nature and powers of man." Then he asks the ridiculous question: "To such a discovery and investigation what more suitable name could one give than that of medicine? since it was discovered for the health of man, for his nourishment and safety, as a substitute for the kind of diet by which pains, disease and deaths were occasioned."

As the book was written in Greek and the term medicine is of later and Latin origin, there is a suspicion in my mind that the translator has followed the usual course and translated the Greek word by the term medicine, when, in the Greek, the term used probably has a different meaning.

The unknown author of the book *On Ancient Medicine*, held that "nobody would have sought for medicine at all, provided the same kind of diet had served with men in sickness as in good health." He pictures what the translators call medicine as a regulation of the foods eaten to the needs and capacities of the sick man. Indeed, the whole book is largely a treatise on food, there being no references to any drugging practices. This same remark can be made with accuracy about most of the other "authentic" books of Hippocrates, except for those that are devoted to surgery.

It is unfortunate that, instead of continuing the search for the best means of feeding the sick and the well, man was shunted into a blind alley by the medical profession in its search for substances (drugs) with which to cure his ailments. Thus, instead of studying causes and effects, for over two thousand years an intensive and extensive search for cures has been carried on and this futile search is still in progress in the face of the consistent failure of the cures. Cure is a will-o-the-wisp that the profession chases over the bogs and swamps of superstition.

The temples of Cos and Cnida, and those of the other Greek colonies, gave great attention to food and natural living and devoted much of their investigations to food requirements. The writings of Euriphon, as well as those of Hippocrates, who, with all of his reliance on drugs, was never able to desert the older methods of caring for the sick, contain descriptions of diets that compare favorably with modern dietary prescriptions. A contemporary of Hippocrates who wrote on diet and sanitation, prescribing for the healthy, the sick and the convalescent, was Apollonides of Cos.

The ancient term, dietetics, should not be understood, however, in its modern sense. The medical historian, Bostock, says: "Dietetics comprehended not the regulation of diet alone, but every circumstance connected with the general management of the patient." We may think of dietetics, in ancient practice, in about the same way that we think of Hygiene: it was a total regulation of the life of the patient. Even the word therapeutics, is not to be understood in any modern sense. To the Greeks it meant: "I wait upon, I alleviate, I attend upon the sick." It is important for us to understand that at the time the more or less legendary Hippocrates is said to have lived and the various contradictory writings credited to him were penned, it was still thought that the best mode of caring for the sick was a regulation of the mode of life of the patient and of his food.

We find a similar thing to have been true among the Egyptians. Existing alongside the flumdummery of the priesthood was a knowledge of diet, moral living, gymnastics, and what may be called psychotherapy, although it was largely priestly ritual. Of the people of ancient India the same was true. The Indians cared for the sick largely by regimen. There was little among them that could be called medical practice. A vegetable diet, frequent bathing, with friction and brushing of the skin, were sometimes, at least at a later date than the ancient period, supplemented with blood-letting. It is probable that the bleeding practice, which was not remote in India, was borrowed from the Greeks or even from the Babylonians. It is noteworthy, also, that Celsus, an early Roman physician, who was less tinctured by Greek and Egyptian medicine than some of his successors, wrote extensively on food and its relation to health and to recovery from disease. Diet was an important factor in the care given to the sick in the Asklepiian temples and there was much effort made to work out more helpful ways of eating.

Dugglison says of temple care: "In the first instance the most rigorous abstinence was enjoined. They were required to fast for several days before they could approach the cave of Charonium. At Orphus in Attica, it was required of them before consulting the oracle of Amphiacarus, to abstain from wine for three days and from every kind of nourishment for twenty-four hours." Fasting seems to have been as important as prayers in the Asklepiian temples, judging by the frequency with which it is referred to. A very strict regimen was enjoined and rigorous abstinence was necessary even before one could enter the temple. Purification fasts were practiced in the Orphic religion among the Greeks, while the Pythagoreans employed diet and fasting in their care of the sick. It would be difficult to overemphasize the importance of fasting among ancient peoples.

As the Asklepiian temples were devoted almost exclusively, except in later ages, to the care of chronic sufferers, the fasting employed in these temples was in chronic disease. As the practice is found in the temples at the very dawn of Greek history, it is reasonable to suppose that prehistoric man learned to employ fasting in chronic disease, in other words, that the historic practice was but a continuation of a prehistoric practice. As fasting is resorted to by both man and animals in acute disease, and as reduced eating and even fasting is instinctively resorted to by animals that are chronically ill, it seems probable that the practice of fasting in chronic disease was brought into history from the prehistoric period. At a later date, in the "Hippocratic" writings, physicians are warned not to feed patients suffering in acute disease. As the employment of fasting in acute disease certainly antedated Hippocrates by many centuries, the advice not to feed the acutely ill can hardly be regarded as original.

If the practice of fasting in chronic disease did not grow out of an instinctive aversion to food, it may have been suggested to prehistoric man by his experiences with fasting in acute illness. He may have tried the fast in chronic disease and, finding it highly beneficial, adopted it as a result of this experiment. There is also the possibility that enforced abstinence, as in famine, that was not too prolonged, revealed to our prehistoric ancestors that fasting in chronic disease is of great benefit. An experience of this kind would have been somewhat like the prolonged abstinence on board ship, such as that described by Mark Twain in *My Debut As a Literary Person*, which abstinence proved remedial in the cases of chronic disease among the sailors.

I incline, however, to the view, that fasting in chronic disease at that early period, was the outgrowth of instinctive practices and drives. One of the most common complaints of chronically ill patients is that of "loss of appetite." They complain that foods do not taste good, that everything they eat "turns to gas," that every meal is followed by increased discomfort and pain and that they are more comfortable when they do not eat. If we may assume that our ancestors were accustomed to being guided more than are we by the language of their senses, we may take it for granted that experiences such as these would have caused them to abstain from eating. Like the animals below us, they would not eat when in a state of discomfort.

The fact that temple fasting was mingled with religion no more proves that it was, originally, a religious rite than does the fact that the temples also employed rest and exercise in their care of the sick proves that these normal needs of life were originally merely religious rites. We know that men have frequently incorporated their strongest convictions in their religions and religion has preserved for us many of the earliest practices of man. The sacred writings of all peoples abound with rules, precepts and maxims, etc., that have been handed down, in most instances, from remote antiquity, in many instances, we are certain, from prehistory. Religion preserved and did not create them.

The ancients had few poison-vices. Perhaps each nation had one or two, but never the generous collection of poison-habits seen in modern life. Tea and coffee were unknown to most of the world; chocolate was unknown outside of South America and Mexico and tobacco was known only to the Americans, soft drinks were unheard of anywhere. Most other drug habits were unknown in the days of early history and prehistory. Wine does seem to have been widely used, but there is much evidence that its harmfulness was understood, as the repeated warnings against its employment as a beverage, that are contained in the Bible and other ancient religious literature as well as in the writings of the philosophers attest. Its ceremonial employment was probably the origin of its employment as a beverage, for it is

difficult to understand how the undepraved taste of ancient man could have been induced to take the foul-tasting beverage, had not some powerful psychological influence intervened.

Dunglison tells us that "it was required before consulting the oracle of Amphiaraus, to abstain from wine for three days and from every kind of nourishment for twenty-four hours. At Pergamus this abstinence from wine was equally necessary in order that the ether of the soul, as Philostratus expresses it, might not be sullied with the liquor." Similar requirements for abstinence from liquor, both before entering the temple and after admission were in force.

Exercise was employed in the temples. Dunglison says that "frequently there were at the side of the temples gymnasia, where persons laboring under chronic disease recovered their strength by the use of gymnastics, and of baths and unctions." The Greeks and Romans knew the importance of exercise long before there was a medical profession. Herodicus is credited with having invented gymnastics, but exercise was employed long before the invention of formal gymnastics. Pythagoras stressed the importance of cleanliness, exercise and proper food long before the time of Hippocrates. In the temples exercise was employed, not alone for its hygienic value, but also, in deformities and defects, for its corrective value. By the time of Plato, movements had been classified as *active* and *passive* and both types of movements were employed in the correction of spinal curvature.

The stress placed upon physical exercise in the temples is in striking contrast with its almost total neglect by modern physicians, who prefer to prescribe drugs to regulating the lives of their patients in conformity with the needs of organic existence. Even in muscular atrophy they prescribe drugs and neglect exercise.

Rest and relaxation were depended upon in the temples and it is certain that the Hippocratic writings borrowed their emphasis upon rest from this source. The temple, on the other hand, may be logically assumed to have borrowed rest and relaxation from the practices of prehistory, as they are integrals of the normal needs of organic existence. Man certainly rested and relaxed before there was a priest or a temple. Leisure time for rest and relaxation was provided in the temples and efforts were made to keep the sick in a pleasant state of mind.

Sunbathing, like formal gymnastics, is a substitute for the normal way of life that was followed by man at an earlier period. The practice can hardly be thought of as having been a part of the way of life of primitive man, for living nude and in the sun much of the day, he would have no need for sunbathes. On the other hand, it may be that, on cloudy days, when there was sun only at brief intervals, he may have taken sun baths, even in remote primitive ages. When we

find sunbathing employed in the temples, we may think of these as substitutes for the normal way of life that had been previously carried out by the ancestors of the Greeks. The *helioses* (L. *solaria*) and sunbathing practices connected with the Asklepiian temples, the sunbathing that was connected with the gymnasia, and the sunbathing of the philosophers may be properly regarded as a continuation of the life in the sun that our forefathers knew. It may be taken for granted, I think, that these practices and the provisions for them, antedate the beginning of recorded history and that they came into being after man had learned to wear clothes, build cities and live in houses.

In the temples sacrifices, prayers, fasting and ablutions all went along together. The temples were commonly located near a spring that supplied an abundance of water, for bathing and cleanliness were strictly enjoined in these institutions. Indeed, as in the case of the oracles, patients were required to bathe before they could enter the temple. After a thorough cleansing, the entrant anointed himself with aromatic spirits or with oils. Some of the springs near which temples were erected were mineral springs and it has been supposed that the Greeks thought of their waters as healing waters. This seems hardly likely, as all healing was done by the gods. It is probable that they merely made use of the springs that were available. Any idea that mineral waters have medicinal qualities must have originated later.

As late as 1850 *The Boston Medical and Surgical Journal*, in an editorial on "The Abuses of Bathing," said: "In our opinion, once a week is often enough to bathe the whole body, for purposes of luxury and cleanliness. Beyond this we consider bathing injurious." This was at a time when physicians had such a morbid fear of water that they not only did not use it for cleanliness, but denied it to fever patients to drink. They were so afraid of the injurious effects of water, that they rejected even the most rudimentary cleanliness in their care of patients.

It is instructive to note that at this time, when physicians were wrestling with puerperal fever and had a high death-rate from this cause in their lying-in women, the Hygienists and hydropaths never mention such a complication and deaths from this cause in their parturient women. With their washings before and during delivery, their syringing of the vagina after delivery, together with their clean hands, they prevented infection.

If there was a Hippocrates of Cos and if he was a priest in the Asklepiian temple there, he brought over into the practice of medicine, which he is alleged to have fathered, many of the practices of the temple. If he is a mere figment of the imagination of Plato or a fictional character he invented to serve as a type, it is still true that many of the temple practices are embodied in the mass of anonymous writings that have been attributed to Hippocrates. It is interesting to note that in the Hippocratic work entitled *The Physician*, there is insistence upon

absolute cleanliness of hands and instruments in the operating room, a demand that must have come from the temple, where the cleanliness had long prevailed. Contrast this ancient practice with the following graphic description of surgical practices of but a short time ago, as given by Sir Frederick Treves, in a discussion, in *The Elephant Man and Other Reminiscences*, of the London hospitals at the time he began his practice: "There was no object in being clean. Indeed cleanliness was out of place. It was considered to be finicking and affected. An executioner might as well manicure his nails before chopping off a head. The surgeon operated in a slaughter house, suggesting frock coat of black cloth. It was stiff with blood and filth of years. The more sodden it was, the more forcibly did it bear evidence of the surgeon's prowess. I, of course, commenced my surgical career in such a coat, of which, I was quite proud. Wounds were dressed with 'charpie' soaked in oil. Both oil and dressings were frankly and exultingly septic. 'Charpie' was a species of cotton waste obtained from cast linen. It would probably now be discarded by a motor mechanic as being too dirty for use on a car. I remember a whole ward as being decimated by hospital gangrene. The modern student has no knowledge of this disease. He has never seen it, and thank heaven, he never will. People often say how wonderful it was that surgical patients lived in those days. As a matter of fact, they did not live, or at least, only a few of them."

Neither the ancient practices, the practices of the hygienic and hydropathic surgeons nor the efforts of Florence Nightingale, Oliver Wendell Holmes and Semmelweis were effective in teaching the medical profession the need for cleanliness. Cleanliness and drainage are but one factor in the reduction of the terrible surgical slaughter of the not distant past. Many patients bled to death. When surgeons learned to tie off "bleeders," thus reducing the blood letting, more patients lived. But at this time, I need only to emphasize the fact that ancient men knew enough to cleanse and protect wounds.

One idea common to all the various orders of priesthoods who cared for the sick was that, to a marked degree, the physical condition of the sick would respond to his mental states. The chief purpose of the priest-healer was to direct the mind of the patient into wholesome channels. When he invoked the gods and the powers of the spirit world and performed his magical ceremonies, these activities may be assumed to have powerfully influenced the mind of the patient, the power of the influence being proportioned to the faith of the sick man in the gods or ceremonials. Healing with prayer, rites and ceremonials is still practiced in all parts of the world and still competes with drugging and surgery for honors in this field, both the physicians and the metaphysicians tending to ignore the more primitive means of caring for the sick that are based on the needs of life.

It may be doubted that, in the earliest periods of history, at least, the priest was intent upon influencing the mind of his patient. It may be assumed that he was directly interested in trying to influence his god and persuade the divinity to heal the patient. Whatever his intentions, it could not have failed to have had the same effect on the mind of the patient in the one case as in the other. It would be absurd to contend that the mind heals, but it is not incorrect to say that peace of mind, confidence, hope, assurance, faith in what one is doing provide the relaxation and poise that, if they do not accelerate the processes of healing, at least offer no interference to these operations.

A practice long carried out in the temples was that of Temple Sleep. This was not a mode of rest, but a form of religious healing that, today, would probably be classed as psychotherapy. In the temple halls that were provided for sleep, there stood statues of *Sleep* and *Dreaming*. Certain patients were required to sleep in the temple after first being prepared for this by rituals and ceremonials designed to create in them hope and expectancy. The sick frequently reported improvement and even recovery after a night in the temple. It seems that some of the gods, particularly Asklepios, were supposed to visit them in their sleep and perform operations and remove stones and otherwise heal the sleepers. Patients were put to bed and required to remain there in silence. Lights were extinguished and quietness was required while awaiting the coming of the god. If the god never put in his appearance, the rest and quiet were helpful.

Among the Greeks, the chief purpose of Temple Sleep was not rest and relaxation, but to provide opportunity and inducement for the gods to reveal, in the patient's dream, the best means of restoring him to health. After having made obligatory offerings, the patient was required to remain a night in the temple, his dream during the night revealing the advice of the god in the most direct manner. Only the priest was capable of correctly interpreting the dream. If, as occasionally happened, the patient failed to dream, the priest was always at hand with a dream of his own, the god having benevolently favored him. Our modern dream interpreters, the Freudians, are not so accommodating; for, while they alone can correctly interpret our dreams, they do not dream for us if we fail to dream.

We must see in temple sleep, as did the Greeks, a means of coming into direct contact with the gods and of providing the gods with opportunity to heal the sick. Temple Sleep was regarded as an act of deep and sincere faith. The temple priests made it clear to everyone that all healing was done by the gods, especially by Asklepios, and not by the priests or their rites. In the very opening pages of *The Iliad*, we learn from Homer that the "dream too is of Zeus." The Sumerians had previously ascribed a particularly important role to dreams, thinking that they brought healing directly from the gods, and among them,

also, it was the duty of the priest to interpret the dream in a manner to alleviate the suffering of the patient. It is probable that the Greek practice was derived from that of the Sumerians.

Dunglison tells us that "the medicines recommended in the dreams were generally of a kind to do neither good nor harm, such as, for example, gentle purgatives prepared with stewed Corinth raisins, or food easy of digestion, or fasting, or baths, and mystical ceremonies." To call these medicines is to ignore the entire history of the practice of medicine by the physicians as contrasted with the practices of the premedical era. Dunglison knew nothing of the value of fasting and little of the value of cleanliness. As a means of freeing the bowels of putrescent materials, Dunglison would probably have prescribed jalap or croton oil instead of raisins, while he gave no attention to diet. He was a physiologist, pharmacologist, physician and medical "historian," and was looked upon as a leader in his profession, but he failed to understand the importance of the Hygienic part of the temple program.

That at least some of the gods that presided over the temples in Greece were Hygienists may be seen from the following bit of information supplied by Katherine B. Shippen in her *Men of Medicine*. She says that the priest would interpret the dream to mean: "The god wishes you to bathe in the sacred fountain three times a day, or to be massaged, or to do certain exercises, or to rest." Or a patient might be required to rise at dawn, rub his body with mud and run three times around the temple precincts. At other times the god ordered relaxation, attendance at a play or watching an athletic contest. As the dreams were recorded on the votive tablets, many of them are known and the advice that flowed from them is also known.

When the god ordered rest or relaxation or exercise or bathing or a different mode of eating or a fast, we readily understand that these simple measures were intended to enable the sick body to restore itself. Perhaps the gods knew that all healing is self-healing; perhaps they knew the need for rest and fasting, etc. When attendance at a play or watching an athletic contest was ordered, it may be assumed that the god was trying to get the patient's mind off himself and his symptoms. He was trying to get him outside of himself. This was a very wholesome and constructive form of psychological re-conditioning. On the whole, the priests in these temples seem to have known what they were doing.

Robinson makes but one reference to the Hygienic care administered by the priests and this is used to introduce his discussion of temple sleep, which he characterizes as "priestly quackery." He says: "only after he had undergone a course in dietetics and hygiene, did the gates of the temple open to the pilgrim." That there was a lot of imposture practiced by the Asklepiian priests, as by all priesthoods, then and now, is abundantly clear, but it was not quackery. Robinson

is too well acquainted with the true meaning of the term quackery not to know better. To play down the hygienic care given to patients and to emphasize the fallacies of the priestly flummery, as most medical historians do, is dishonest. Others, equally dishonest, attempt to trace the beginnings of medicine to the temples, but more of this later.

The Asklepan temples and their activities lasted until the middle of the fourth century A.D. Pausanias, who stayed for some time in an Asklepium, provides us, in his descriptions, with remarkable details of the methods and systems employed by the priests in these temples and their care and treatment of the sick. But he lived in the second century A.D., and by this time the temple practices had become corrupted by inclusions of Hippocratic medicine. Besides hygiene,—fasting, special and strict diets, exercise, games for diversion, rest, sunbathing, continence—massage, various forms of water applications (hydro-therapy), magnetic healing (it is certain that they also practiced hypnotism), and aerotherapy, they were using, when Pausanias was there, cathartics, anthelmics, ventuses, local bleeding, general venesection, emetics, collyriums, aromatic herbs, spirits, extracts of various barks and botanical poas, other vegetable substances, liniments, poultices, plasters, and other procedures. So corrupted had they become by the infiltration of the drugging practice that it was time for them to be closed. Besides, a new priesthood had arisen and hygiene was rapidly losing popularity.

I must agree with Robinson when he says that “the assertion that Greek medicine originated in these healing shrines of Asklepios, shows a misconception of the essence of divine healing.” I would point out, at the same time, that when he overlooks, as he does, the hygienic care employed in the temples, he misses the fact that not the “divine healing,” but the hygienic measures were the truly helpful features of temple care. There was no medicine practiced in the temples until some time after the Hippocratic system had originated. The priests did not give medicines; they did not practice medicine. Inasmuch as the priests of Asklepios did not employ drugs at all, but combined hygiene with their religious and magical practices, they cannot properly be called a medical cult. Hippocratic medicine succeeded in infiltrating and corrupting the temples, but it was never able to wean them from the hygienic practices. To refer to a physician as a disciple of Asklepios or to connect the physician in any way with the name of the “god of healing” is to distort the truth. He was not a medical man; he founded no medical school; he practiced no medical art; in the temples devoted to him, no medicines were administered.

When Haggard says that “instruction in medicine was given in the Temple of Aesculapius,” he employs the term medicine in a very liberal sense. It becomes a blanket term to cover anything desired. He says that the temple priests “did not, however, hesitate to use drugs

and even to perform operations if the patient's condition seemed to warrant them, but the whole of the medical practice was strongly tinctured with superstition and religious practices." The employment of drugs in the temples came after the origin of Hippocratic medicine; the employment of surgery in the temples goes back to remote times, but temple surgery should not be thought of in the light of present-day vandalizing of the organism. Temple surgeons did not remove the tonsils to cure a swollen knee nor remove the gall bladder to cure an inflamed shoulder. They did no de-sexing of women, and removed no portions of the sympathetic system. His statement, however, implies that the employment of drugs is not based upon superstition.

A. P. Aravantinos, M.D. in his book, *Aesclepios and Aesclepieia*, says of the fact that little drugging was employed in the temples: "Much of drugs or medicines was not used here. So, when we speak of medicine, we must not think of pharmacotherapy at all; for drugs formed the smallest percentage of the whole treatment which, as a rule, was natural therapy." He adds: "In these therapeutic places—the Aesclepieia—sanitation, hygiene and physiotherapy were mostly practiced. Very little medicine was given, as is the case today in modern sanatoriums. Indeed, it is very admirable that our forefathers, in medicine as in other lines, from the beginning of their life, opened the surest and most logical way in applied therapeutics. Today, after thousands of years, we return to the hygienic principles the ancient Helenes originated and fostered. Though many centuries have elapsed, the Aesclepieia, in all their ancient glory, still exist in the form of sanatoriums and hospitals. After all, what does the modern treatment in sanatoriums consist of? From a practical point of view, it consists principally of aerotherapy, hydrotherapy, gymnastics, exercise, baths, massage, music, diet, good times, recreation, excursions, refreshments, sports, etc. Surely, pure air, bathing, massage, cleanliness, diet, disinfection and antiseptics are even today the best means of successfully combating and treating disease, and they always will be. All these hygienic conditions were well known to them and practiced by the ancient priest-physicians."

While he still tries, like his medical colleagues, to make a system of medicine out of the practices of the temples and physicians out of the priests, even going so far as to intimate that the modern sanatoriums are of medical origin, he does recognize that most of the care provided in the temples was hygienic rather than therapeutic. When he says that "very little medicine was given" he should be understood as saying that very little drugging was done.

Aravantinos will have great difficulty in convincing his professional brethren that the methods carried out in the temples and in modern sanatoria are better than antibiotics and glandular substances. Right or wrong, his medical colleagues will not accept his verdict.

They are too well aware of the origin of the sanatoria. Let us take the largest one we have in America—The Battle Creek Sanatorium. Founded in the 60's of the last century by a group of Seventh Day Adventists as the Health Reform Institute, whose "remedies" were "light, water, air, electricity, exercise, cheerfulness, rest, sleep, proper clothing, proper food, and, in fact, all hygienic and sanitary agents," it was a part of the hygienic movement and was devoted to hygienic care of the sick. J. H. Kellogg, who graduated from the New York College of Hygiene—Therapy (founded in 1853 and conducted by Dr. R. T. Trall) in the early part of 1873, became head of the institute soon after his graduation. About the same time he became editor of *The Health Reformer*, a hygienic monthly published by the same group and in which Dr. Trall conducted a regular department. From its beginning until Kellogg relinquished control, the institute, which later became known as the Battle Creek Sanatorium, with some deviations, remained true to the principles of Hygiene.

Our next largest sanatorium was founded by Dr. James C. Jackson, in Dansville, N. Y., in 1858, being dedicated on Oct. 17, of that year. Dr. Jackson was a regular physician, who had abandoned medicine for hygiene, but his staff consisted almost wholly of hygienic graduates. What was, perhaps the third largest sanatorium was founded by Robert Walter, also a graduate of Dr. Trall's college. The sanatoria in Europe, such as those of Bilz, Kuhne, Lahmann, Just, etc., grew out of the Water Cure, which became the Nature Cure. In this country the Nature Cure movement is represented by the naturopaths and I do not believe that the medical profession is going to acknowledge that naturopaths are superior to themselves in the care of the sick, although, perhaps, strict honesty would compel them to do so.

Aravantinos is also wrong, as I have shown in a previous chapter, in assuming that the Greeks originated hygienic principles and practices. These practices belong to the normal ways of life, are the common property of the race, rather they are the common property of the whole world of life—plant and animal. They were practiced by primitive man and are practiced, even yet, to a greater or lesser extent by all mankind. I think that we have a more complete record of the employment of these hygienic measures in the Greek temples than we have of their employment in the temples of Sumer, Babylon, Egypt, Aegea, India, etc., but we do have sufficient record of the employment of these elements of man's pristine way of life among these other peoples to demonstrate that they were not continued into the historic period by the Greeks alone.

When a sick man or woman recovered in a temple, he or she was required to deposit in the temple a votive tablet on which was inscribed the narrative of the case, including a statement of the symptoms and the means employed in treatment. As these records were

religiously preserved, the temples became repositories of a great mass of information—case histories—of this kind. Hippocrates, who is supposed to have been a priest in one of these temples, either at Cos or at Rhodes, is believed by some medical historians to have made great use of these records. One treatise that has been credited to him, *Coacae Praenotiones*, has been supposed to have been compiled entirely from records obtained from the temple of Cos. For the most part, votive tablets that have been dug up by the antiquaries state little more than the name of the disease, together with a brief account of the means adopted for its relief, which, in many cases depend entirely upon certain ceremonies and, in others, upon the use of “remedies” that are now admitted to be of no value. It may truthfully be said, then, the sick recovered without any curative treatment, a fact that has always been true under all forms of treatment.

LUCIFER ON EDEN'S DOORSTEP

Chapter 12

When I was a small boy we had a practice of going to the cross roads, if a styte developed on an eyelid, and repeating the following rhyme:

Stye, stye, leave my eye
And go to the next one passing by.

It worked, or appeared to. I never knew that one ever went to a passerby, but we were never long in being free of a styte. This was a surviving remnant of the system of magic by which prehistoric man, early historic man, many civilized people of today and modern savages attempted and attempt to control the forces and processes of nature. In its origin, of course, as among modern primitives, it was an effort to control the supernatural powers that control nature.

Emerson stated that "Magic is a deep presentiment of the powers of science." This is hardly true. Magic gave no heed to the lawful and orderly processes of nature, but sought to control these by controlling the spirits behind them. Magic has been called "make-believe," but it was not intended as mere make-believe. It was not child's play, but serious business with those who practiced it. That there was much conscious fraud attending the practices of magic, as there is with everything else man does, goes without saying, but the conscious fraud was incidental.

Sometime before the dawn of history somebody conceived the idea of the supernatural. Quickly the forests, rivers, lakes, seas, mountains, the wind and rain, clouds, "bowls of the earth" and the heavens (sun, moon and stars) above the earth were peopled with invisible beings—gods and goddesses, good spirits and evil spirits—that controlled all the operations of nature. These supernatural powers could be dealt with and even controlled by and only by a select and consecrated class of men and women who became priests and priestesses.

The magicians were soothsayers, astrologers, necromancers, slight-of-hand performers and outright frauds. They talked with the spirits, with the gods and with angels. Any reader of the Bible will be struck with the frequency with which interviews with divine beings took place among the Hebrews. "The word of Jehovah came unto Moses" or unto some of the prophets is a phrase repeated so often that it becomes monotonous. The priests and magi of the other and older nations also held converse with the gods. This familiarity with the gods gave them a great advantage over the common people. They foretold events, explained to the people what the gods wanted them to do, and

breathed threats of terrible vengeance upon all who did not do as the priests bade them do.

When Moses, who surpassed the Egyptian magi in the arts of magic, threw down his staff before Pharaoh and it turned into a snake, Moses used a slight-of-hand trick that any modern stage magician could reproduce. That it was not a secret, known only to Moses, is shown by the fact that when Pharaoh called in his soothsayers, these each threw down their staffs and each of these became a snake. When Moses lifted up the brazen serpent in the wilderness and instructed all to look upon it who wanted to be healed, he was employing magic. Was this serpent the caduceus? Did he bring it with him from Egypt? Moses was on intimate terms with the deity, as were all the priests of the other nations round about. Throughout most of the Orient today this belief in the partnership between the deity and the priest is still strong.

When history dawned in Egypt, Sumer, Crete, Babylon, Phoenicia and elsewhere, the thinking and practices that grew out of this idea of supernatural powers had already reached a complex stage of development, although elsewhere its development was and tended to remain rather simple. Historically it is possible to watch the increasing complexity of the system and its control over the minds of men, as it continued to evolve subsequent to the beginning of written records.

From these centers, perhaps, originally from a single center, the system of magic spread over the whole earth. From tribe to tribe it passed, each tribe accepting parts of it and modifying it to suit its own circumstances. In its evolution it grew into those systems that are now called religions. Our definition of religion, as contained in our dictionaries and in the discussions of archeologists, anthropologists and historians, as well as in the writings of those who deal with comparative religion, makes no distinction between the voodooism of the African witch-doctor and the most complex system of religion anywhere in the world. Magic rapidly grew into a system to control men and women and was of greater importance to the priests on this account than for the power it gave them over the spirit world.

There is abundant evidence of the practice of magic among the people of Crete and they carried the practice to a high state of development. The Achaeans must have been well acquainted with practically all of the magic of Crete. Turning to Homer, he several times mentions the magical employment of drugs, as when Circe mixed drugs with wheat and made a potion with which she hoped to cause Odysseus to forget his country and relatives, and to transform his associates into pigs: "With Pramnain wine she mixed, harmfully, with the good to make them utterly forget their own country." The touch of a magic wand that restored to their former state, the friends of Ulysses, whom Circe had transformed, by her potions, into swine, was a use of

magic. "She anointed each man with another charm. Then from their limbs the bristles fell away which the baneful drug that queenly Circe gave them had before made to grow, and they became men again, and far comelier and taller to look upon." That was a remarkable drug, a charm more potent than the rejuvenating drugs of modern medicine, but no more remarkable than the one that had transformed the men into swine and made bristles to grow upon their limbs.

Homer mentions the employment of alcohol and other narcotics, but they are commonly associated with magic rather than with healing. Even in those instances where they seem to be associated with healing, we may be sure that they were part of the magic of the time, for there was no medicine at this remote period.

Healing maladies by repeating certain words, which were pronounced either softly or loudly, a practice still carried on in certain parts of the world, is a form of magic that Homer introduces to us, as being practiced among the Achaeans. In the *Odyssey* he tells us of Ulysses being wounded in the leg, while hunting wild boar, and says that the flowing blood was staunched by means of a verbal charm employed by the sons of Autolycus: "With nicest care the skillful artists bound the brave, divine Ulysses' ghastly wound, and the incantations staunched the gushing blood."

Homer indicates that certain charms and amulets had supernatural prophylactic powers. He mentions the imperishable veil of Ino, "the fresh bellowing of the spirits," which saved Odysseus from drowning, saying: "Come, take this veil and stretch it beneath thy breast. It is immortal, there is no fear that thou shall suffer aught or perish." Hermes takes Ulysses the herb of "moly" as a charm against the evil spell of Circe. Homer frequently refers to the Thaumaturgic attributes of divine agencies, and tells of the sudden turning of a Phoenician ship into stone, a story reminiscent of the turning of Lot's wife into a pillar of salt. He presents us with prehistoric robots when he tells us of speaking golden handmaidens who could move, speak and think, and of the marvelous self-moving tripods of Hephaestus.

In the face of all this magic in Homer, Pliny, who attempted to derive the practice of magic from that of medicine, instead of medicine from magic, as is now everywhere admitted, says that magic was brought into Europe by Osthanes, who accompanied Xerxes on his military expedition against Greece. So successful was Osthanes in disseminating the seeds of his supernatural art wherever he went, the people of Greece went wild over it and prominent men, among them Pythagoras, Empedocles, Democritus and Plato traveled through parts of the Orient to personally and thoroughly acquire the magic arts. Democritus is said to have opened the tomb of a celebrated magician—Dardanus of Phoenicia—that he might restore to publicity the writings of the dead man.

Can it be that magic had fallen into disuse in Greece and was no longer popular at the time of the Persian invasion? This does not seem to be the explanation of Pliny's statement, for it is well known that magic was still in vogue in the Greek temples. Osthanes may have been instrumental in creating a more widespread employment of magic; he may have added to its uses; it may be that at this time it spread further westward into Europe. Perhaps it was about this time that magic reached Rome, although even this seems far fetched, as the Greeks, Phoenicians, Cretans and Egyptians had long been in contact with Rome and more distant westerly regions.

As through the eyes of archeology and history we can watch the first-fruits of secular knowledge as these are radiated along the inland trade routes, from the ancient Near Eastern civilizations to China, so we can also watch them push westward into and beyond the Mediterranean, as the Semitic peoples sent forth their ships to trade in dyes and tin. If the techniques of measurements followed the trade routes, as historically we know that they did, what is there so far-fetched in assuming that the techniques of magic followed these same routes, as historically we know that at least some of them did?

We do not know when man conceived the idea that disease is due to an attack upon the body by evil spirits, but it is likely to have followed the beginning of the evolution of the system of magic. We are not, at this time interested in all the ramifications of the system of magic in establishing and maintaining the state, its worship of the gods and goddesses in the temples, its application to agriculture and other spheres of human activity, but in its employment in the care of the sick. For, it was an easy step from conceiving of disease to be of demonic origin to its control by the priests, although the idea that disease was visited upon man by the gods seems to have preceded the idea that it was of demonic origin. When history dawned, there was no medical profession, there were no medicines. There were priests and their rites and incantations, their charms and ceremonials. The sick, when cared for at all, were cared for by the priesthood. Efforts are made to show that the first pharmacopeia was recorded on clay tablets in Sumer, but the evidence is not worth the chapter in the books in which the story is told. The Sumerian priesthood cared for the sick.

It is true that in Egypt, Babylon and the other countries, there were practices that medical historians include in their "history" of medicine, but the careful student will not miss the fact that the practices, were incantatory rites, ceremonials, charms and other forms of magic carried on by the priesthood. The so-called *medicine* of these peoples was practiced by priests and not by physicians. These priests invoked the gods and the powers of the spirit world.

I suspect that magic had its origin in Egypt. I have also thought that it originated in Sumer or in Crete. I doubt that its origin

long antedated the beginning of historic records. I believe that there is a strong tendency among scholars to project magic too far back into the past, to have extended their dates and "ages" much beyond what their data justify. At any rate, let us begin our studies by brief references to Egypt and follow this with references to other countries.

Of the forty-two books attributed to Hermes, thirty-six contained the history of all human knowledge, six were devoted to anatomy, disease, especially female diseases, affections of the eyes, instruments of surgery, and medicines. These six books contain six hundred and fifty prescriptions and modes of treatment. The various treatises of the books are set forth by special revelation by the divinity and the prescriptions are accompanied by sentences and invocations for the priest to repeat while making up the medicine and when he is about to administer it to the patient. The drug was but a part of the incantation. Here may be the germ of the later idea that the drugs are the hands of the gods. Some of these books of Hermes are suspected of being of more modern date, it being suspected that some of them were written about the time of the existence of the school of Alexandria, when alchemy and some of its kindred branches had its origin.

Medical historians call Imhotep the world's first physician. He is also called the *Egyptian Father of Medicine*. Imhotep was not a physician, but a priest. As chief minister of King Djoser, who reigned somewhere between 2600-2200 B.C., he immortalized himself and his king by his construction, as architect, of the King's mammoth tomb. As a priest he knew how to control the gods and the spirits. He employed his knowledge and his power in aiding the sick to recover and was so successful in this work that his tomb became a shrine to which pilgrimages were made long after his death and wonderful healings are reported to have been wrought there. His fame grew as the centuries passed and temples were dedicated to him where the sick, seeking health, flocked in ever-increasing numbers.

Starting as a man, but one thought to be almost worthy of divine honors, he was at length deified, after the ancient custom, and became the Egyptian god of healing and was honored as the first born of Ptah and Sekhmet. It is probable that Sekhmet, by whom Ptah sired Imhotep, was a virgin. Like Asklepios among the Greeks, he started as a man and became a god with the passage of time. Later, when the Greeks visited Egypt, they identified Imhotep with Asklepios, the two gods being fused into the joint personality Imuthes-Asklepios. Imhotep was not only able to heal the sick, but he was able to bring happiness to the unfortunate and to make barren women bear children.

Sthoth or Atuti, son of Menes, the founder of the first Egyptian monarchy, was also a healer, according to Manetho. As a priest-king, there was nothing unusual about him also being a medicine-man, for priest, king and healer were all one. Indeed, the

supernatural powers possessed by the priests gave them the ascendancy over the minds of the common people and this enabled them to elevate themselves to the position of ruler. Magic and not physical force was the initial power employed in the creation of the state.

Egyptian temples erected to the god of healing were called Serpeia. Isis, the Great Mother, and Madonna among the Egyptians, was the goddess of the Secret Shrine, and bore the Semitic name Hakhamoth or Wisdom, as being the tutelar genius of the Superior Knowledge and patroness of the art of Healing. In her temples also, healing was carried on. Egyptian priests belonged to the sacerdotal order, to the class denominated *pastipori* or carriers of the sacred shrine and emblems. They were connected with the temples and received all their instruction in these. The Egyptian priesthood zealously kept their "knowledge" from the common people. The servile and subject classes of Egypt were regarded as earth-born and inferior; but the youth of superior rank were considered of divine mold. They were permitted to attend the temples where they were taught the various branches of knowledge. The priest-healers, who were supposed to possess knowledge above all men, were of the race *Paieon* and were carefully instructed in all the arcane and arts of the magician. This plan of educating only the "superior" god-born elements of the population was admirably adapted to keeping the masses in subjection and keeping them believing that the knowing ones were really of the gods. The magician knew how to retain his ascendancy, once he had obtained it.

In Egypt, as elsewhere, what is erroneously referred to as medicine was dominated by magic and sacerdotalism. The sanitary principles and practices found among them were supplemented by physical exercise (gymnastics), diet and moral living, plus what may be regarded as psychotherapy. All available information indicates that the healing practices of the Egyptians were parts of religious or magical rites and ceremonials and were in the hands of the priests. The "inevitable incantations" are said to mar the "scientific value" of all Egyptian medical records, for "it seems that the Egyptians could not function without magic." Victor Robinson, M.D., in his *Story of Medicine*, says that "The Egyptians could not eliminate magic from their medicine, or divorce their sacred and secular knowledge... Never were demons more prolific than on the Nile. More potent than the venerated gods were the all powerful magicians who by incantations commanded and changed nature. Pyramid texts and papyrus scrolls tell us of priests who raised the dead, opened the earth, stopped the sun, and parted the waters to find the lost jewel of a princess."

The Egyptian priests practiced the healing art by means of magical incantations; their *medicine* being largely magic. In view of

the vast number and reputed efficacy of the charms and spells that make up the bulk of the Egyptian *Book of the Dead*, it appears certain that magic had been developed to a very high degree among them. The *Embers Papyrus* (dated by Egyptologists, 1553 B.C.) is said by medical historians to be much freer of magic than the *Edwin Smith papyrus* supposed to have been written at a much later period, indicating, if we can believe the historians, that Egyptian magic underwent an evolution in complexity with the passage of time. Indeed, the study of Egyptian papyruses in their chronological order reveals that, with the passage of time, the incantations became more numerous and the drugs less so.

The Egyptian priest-healers were much in demand among the peoples close to Egypt, even kings and wealthy men sending to Egypt for healers. The spread of magic from Egypt to surrounding peoples is easily accounted for. It is even thought that the myths of Asklepios and Dionysus, which belonged to the Achaean Greeks, were derived from Egypt. The Egyptians carried on an extensive commerce with the people of Crete; there must have been an exchange of ideas and practices as well as of gods.

Besides the priests, who were carefully instructed in the magic arts that helped the sick back to health, non-priestly healers were common in ancient Egypt. Clairvoyants and mediums practiced as healers; charms and amulets were employed, while pieces of papyrus have been found with sentences written on them which were employed for magical purposes. Current in all ages, from remote antiquity, has been the belief that hieroglyphics, runes, astronomic (astrologic) and even alphabetical characters possessed occult virtues that could be employed with benefit in bodily ills.

Historians assure us that the ancient Egyptians knew "a great deal of the properties of Drugs." Especially did they know much of the medicinal qualities of plants. As no such properties and qualities ever existed, this assurance is hollow. The herbal practice was originally a ceremonial practice, the herbs being used in the rites and incantations, with no thought that the herbs possessed healing virtues. Healing was the work of the gods.

Sculptures upon the walls of Egyptian temples indicate that they were familiar with animal magnetism or hypnotism. Ancient people, being well informed of the evils of hypnotism and not lulled to sleep by the assurance that it is a science and in "the right hands" capable of doing much good, rightly called it "black magic." The practice, so often referred to in the Bible, of "laying on of hands," was practiced by the Egyptians, as by practically all ancient civilized peoples. Nobody pretends that "laying on of hands" is a medicine any more than that the chiropractic thrust is a medicine. Nobody pretends that prayer is a medicine. Historically, the practice of medicine has

been that of poisoning the sick and the practice of medicine should not be confused with the rites of the priestcraft.

Specialism in the care of the sick was carried out to an extensive degree in ancient Egypt. From this, we are not to think with the medical "historians" that they had a system of medicine. This would be a serious mistake. Herodotus and Diodorus of Sicily and other ancient Greeks, after examining the medical systems of the Babylonians, Egyptians and Assyrians, reached the practically unanimous conclusion that their practices were very rudimentary and that they were in the hands of the priesthood. This simply means that they were sacerdotal practices, largely incantatory rites.

Herodotus describes the specialism that was in vogue among the Egyptian priests and tells us that each disease was treated by a priest who specialized in that disease. This same specialism extended, also, to their art of embalming, one priest preparing the body, another cutting and opening it, still another cleaning the corpse and preserving it in a manner dictated by the station in life of the deceased. Medical historians are prone to refer to these priests as doctors, by which they mean physicians (not doctors of divinity), and to leave the reader with the thought that the Egyptians actually had physicians among them.

When we learn that Egyptian priests carried their specialism so far that a priest would specialize in but one disease, other priests specializing in other diseases, we must not think they had any well-developed and reliable system of different diagnosis. Of the diagnostic abilities of the Egyptian specialists, Dunglison says: "Diodorus gives us reason to suppose that their diagnosis was principally formed on the position assumed in bed, a mode of discrimination, as may be readily conceived, at once nugatory and absurd." Differential diagnosis was to come two thousand years later and to slowly develop over a period of three to four hundred years. In fact, it is still in process of development. Nor should it be thought that either Egyptian priests or later Greek physicians recognized the existence of such a great catalogue of diseases as are listed today. Their nosology was a simple one; their knowledge of pathology was very primitive; Their understanding of symptomatology very meager.

Although the Egyptians had carried the embalming art to a high state and must have acquired, in the process, considerable knowledge of gross anatomy, they founded no practices upon the knowledge of the body thus obtained. It seems that they did arrive, about the same time as the Greeks, perhaps a little before, at a stage where they relied upon their "drugs" to heal the sick, although they never abandoned the incantations. What is called Egyptian medicine is a mishmash of magic, priestly ritual, drugging and other follies too numerous to mention and I think it is a good beginning for the practices that receive the designation medicine.

Medical historians seem to be very generally agreed that medicine had its origin in Egypt. Chiron, Pythagoras and Hippocrates are each credited with having introduced Egyptian medicine into Greece. It is also asserted that the Egyptians had developed medicine to about the stage it had attained at the time of Galen, although I have found no evidence for this assertion. Certain it is that Egyptian medicine was never divorced from the priestcraft. Egyptian medicine has been greatly over-rated. Perhaps the embryonic beginnings of medicine evolved in Egypt and Phoenicia, but that these countries had systems of medicine is an unwarranted assumption. In the struggle to give medicine an ancient heritage, medical historians include in their "histories" everything, however remote from healing, they can make to appear like a practice of medicine. Certainly, the methodological tripod of science—*observation, experimentation and induction*—were all but unknown to the Egyptians. Egyptian medicine, like Greek medicine in the pre-Hippocratic era, was a curious mishmash of religion, magic, empirical practices, instinctively employed measures, and the initial stages of the drug practice.

Liturgies to Nin-azu, the "Lord of Healing" among the Sumerians, indicate that, in what some archeologists believe to be the oldest civilization, the priests relied upon magic, prayers, incantations, etc., with the help of the gods, to heal the sick. Hea, the supreme god of both the Akkadians and their successors, the Assyrians, was, to quote Sayce, "emphatically the god of healing, who had revealed medicine to mankind." Here again, we have a noted archeologist using the term medicine in connection with magic and incantatory rites intended to exorcise evil spirits. The *Shurpu* series (of tablets) from ancient Mesopotamia are devoted to incantatory rituals by which the sick or bewitched man was supposed to be freed from his state of bewitchment. The priests of Babylon cared for the sick with incantations and mesmeric procedures and were versed in astrologic and occult lore and employed herbs in their treatment of the sick. They taught their patients to believe that their recovery was due to the divine operation itself. The code of Hammurabi, who was a priest-king, also regulated the care of the sick. The old Babylonians are supposed to have invented witchcraft.

Herodotus tells us that the Babylonians had no healers. The sick were placed in the public square and every passerby was required to inquire respecting the malady and, if the inquirer had ever suffered in a similar manner or knew one who had so suffered, he was required to tell the sick what remedies had been used. This practice also existed in other countries and has been carried out even closer to our own era. Diodorus and Strabo both say that the Egyptians also had the sick to sit or lie in the market place until some passerby recognized the ailment and gave the patient the proper instructions for cure. The

Hebrew prophet indicates that a similar practice was in vogue among the Hebrews: "Is it nothing to all ye that pass by? Behold and see, whether there is any pain like mine." Both in the Synoptic Gospels and in the Acts of the Apostles, this custom is mentioned.

Here Herodotus is thought to have meant that there were no professional healers like the Asklepians and Hippokratians, who were members of oath-bound or sacerdotal orders in Greece. That there were healers of a kind among them is indicated by cuneiform records, which tell us that the earlier Akkadians, who inhabited that region, regarded the seventh day as *sulum* or "set apart" and that it was forbidden, even for the king, to eat cooked food, to change his garments, to put on new clothing, drive in a chariot or "take medicine for the ailments of the body." The Akkadian sabbath would seem to have been as completely a day of rest as that of the Hebrews at a later time. Indeed, it appears that there are no elements in our religion today that did not exist in those of the Sumerians, Babylonians, Egyptians and other ancient peoples.

The Hebrew word for priest, *kohen*, means a soothsayer or diviner. Although in the writings attributed to Moses, there are a few allusions to the practice of medicine, the Hebrew priests appear, as among other peoples, practitioners of magic. As in Babylon, so in Jerusalem, the priests looked after the sick. In addition to their magic practices and their prayers, they depended upon hygiene and sanitation for their success, and they became so efficient in the regulation of hygiene and sanitation that their rules governing health formed the basis of sanitation in the more advanced civilizations for over two thousand years. Their regulations were designed principally for the promotion of cleanliness and the prevention of "infection."

The "laying on of hands" was practiced by Hebrew priests as by the priests of other countries. Indeed this practice is mentioned several times in the Christian scriptures and has been much in vogue among several Christian sects. The words of the Syrian General Naaman (II Kings 5) indicate the generality of the practice of the priest-healers of employing their hands in healing the sick. He complained: "Behold, I said to myself, 'He will surely come out to me, and stand and call upon the name of his god, and extend his hand over the place, and heal the plague.'" His last words indicate that the extending of the hand over the place was part of a religious rite and not a magnetic gesture. The mixture of sympathetic magic with religious observances is seen when, in the time of Samuel, the Philistines who had carried away the arc of God, were struck with hemorrhoids from which they were not freed until they had offered to Jehovah figures in gold of these excrescences.

When, at a later time, the Bible records that King Asa of Judea "sought not unto the Lord," but consulted physicians, dying as a

consequence, it must be understood that he refrained from consulting the priesthood, not that there were physicians in Judea. The translators have supplied the word physician. The statement may be taken to indicate, however, that a separate class of healers had come into existence. (See Deuteronomy 17).

Still later we find Jesus and his disciples casting out devils to heal the sick. This practice continued in the Christian churches until relatively recent times. Indeed there are Christian sects in America today who have their rites of exorcism to free the sick of devils that have taken possession of them. The belief in evil spirits had not died out in civilized lands; indeed, it has not died out today, but during the Middle Ages the belief in evil spirits, as the cause of disease, underwent a revival and the priestcraft again came into prominence in the care of the sick. This work of the priestcraft in exorcising evil spirits became one of the principle means of healing the sick. In 1853 the Jesuits of Vienna boasted that they had cast out 12,652 devils. Earlier than this, Paracelsus, whom many today seek to exalt and who is heralded as the *Father of Chemotherapy*, maintained that the air was so full of devils that you cannot put a hair between them. What was called medicine languished, its practices becoming, if possible, more absurd than those of the time of Hippocrates.

All the old world cultures are derived from that of the Mediterranean Crescent. Chinese civilization, for example, is descended from that of Western Asia and North Africa. There is nothing surprising, therefore, in the fact that the magic practices of the Crescent are found in India, China, Japan and even in the Islands of the Pacific. I think that the systems of magic practiced by the native inhabitants of the Western new world, are also derived from the same source. Certain American tribes were found practicing circumcision, a magic rite that originated in Egypt. The symbol of totem, called the caduceus, by which Asklepios was often represented, the serpent upon the *stauros* or tree of life, and which became the symbol of the healing art, was employed in all the East, in Africa and in aboriginal America. If the caduceus came to America from the old world, how much of the other magic of the old world also came along? Was the monastic system found in America an indigenous development or was it, too, an importation? Was the ancient world a unit? There is testimony to the effect that the medicine men among the American Indians employed hypnotism and laying on of hands in their care of the sick. The sweat bath was among the measures they employed in driving evil spirits out of the bodies of the sick.

Magic did not travel eastward only. It went westward into Greece, Rome and even as far as Britain, if not further. It was practiced by the Druidic priesthood of northern Europe. The Celtic druids were judges, legislators, priests, medicine men and diviners.

Clemens of Alexandria well compared them with the shamans of Tibet. They were impostors who had persuaded the people of the British Isles, Gaul and elsewhere that they were in constant contact with the gods. Their wives were sorceresses. The stories of Merlin in the King Arthur stories contain magic practices of the druid priesthood. The ancient Chinese traded with the whole world. Articles brought from that country have been found in the old monuments of Ireland and in the tombs of forgotten Egypt. They are known to have visited America, but our point here is simply that, if Chinese goods reached Ireland, Egyptian magic may also have reached the British Isles. The diffusion of magic must have followed the ancient trade routes along with the goods that were carried over them.

For a long time the Romans relied on the power of charms and incantations for the removal of disease and the care of the sick was in the hands of priests who employed superstitious rites and ceremonies in their ministrations to the sick. Pliny tells us that for six hundred years Rome was without a physician. Medical historians do not like to accept this statement, for they cannot conceive of a people not having members of the curing craft, although they can find no history of such men among the Romans. They assume that there were no healers who made names for themselves.

Medicine, like magic, came to Rome from Greece, its introduction coming at a later period than the other arts, as the practice had been expressly prohibited by the citizens and its practitioners banished. Pliny tells that about 200 B.C. Archagathus, a Peloponnesian, introduced medical practices to the Romans. He was, at first, received with great respect and was maintained at public expense; but his practices were so severe and unsuccessful, and the people became so disgusted with him and his practices, that they banished him and prohibited the practice.

In Rome prior to this date and for a long time after the expulsion of Archagathus, healing was in the hands of the priests and was attempted with rites and ceremonies. Efforts to establish the long existence of a practice of medicine in Rome by reference to the state these arts had attained by the time of Celsus are wasted. He is known to have imitated the Greeks and is said to have introduced the Hippocratic system into Rome. Medical "historians" simply close their eyes to the fact that a knowledge of Greek medicine was not inaccessible to Celsus.

The belief in the powers of charms and incantations to remove disease is no stronger in savage peoples of today than it was among the Babylonians, Sumerians, Assyrians, Egyptians, Cretans, Phoenicians, Greeks and Romans. The healing practices of the Assyrian priests consisted mainly of magical practices. In Egypt, in Greece and in all the ancient nations the healing art was in the hands of the priests.

There was no separate professional group known as physicians. The physician evolved out of the priestcraft, medicine evolved out of magic, but at the dawn of history, there were no physicians and there was no medical art. What is today called "religious healing," "divine healing," "psychotherapy," and by other similar names, was the original, and for a long time, the only form of healing practiced in the world.

As ineffective as was the system of magic in controlling the forces and processes of nature, it was effective in controlling man. By means of fright, suggestion, deception and fraud, hypnosis, and by keeping the people in ignorance, it kept mankind in a state of terror and caused men and women to do the will of the wizard and accomplices of the wizard. The sick recovered, as they continue to do today, not because the charms and amulets restored them, not because the gods and goddesses answered prayer, but because man has within himself the power of restoration and renovation.

While the incipient stages of the system of magic are seemingly, at least, outside our present means of observation, it seems clear to me that the assumed extreme primitiveness of tribal magic defies a great deal of scientific analysis. That the system had its origin in the prehistoric period is well established, but, no matter how far back into the period of prehistory the system of "primitive" magic extends, man lived for a lengthy time without it; magic did not originate with the first man. That it eventually evolved into philosophy, religion, medicine, political institutions and certain of our sciences is true enough, but back of all of these and back of the beginning of magic, man's normal needs and his normal instincts, drives and urges operated. They antedate magic. Man ate and drank and breathed, he rested and slept and ran and walked and worked and sought shelter from heat and cold long before he ever sought to control the good and evil spirits and before he ever sacrificed to the gods.

It is as patently absurd to call priestly magic a healing art as it is to call the poisoning practice a healing art. It is as ridiculous to credit healing virtues to charms, amulets, incantations and ceremonials as it is to credit healing virtues to quinine, arsenic, penicillin and cortisone. Instead of uncritically accepting the mishmash of the different practices of mankind—instinctive and normal, magical and pharmaceutical—that historians, archeologists, anthropologists and physicians have jumbled together under the rubric of medicine, we must learn to recognize that they have and had nothing to do with healing.

CLOUDS ACROSS THE SUN

Chapter 13

Prehistoric man seems to have learned that he could palliate his discomforts with heat and cold and with rubbing (massage). At least we find these measures in common use at the very dawn of history and they were of frequent use in the Asklepian temples. Both Babylon and Egypt developed forms of massage. In Babylon, as in Greece, there were bone-setters. There were also bird-watchers who may have competed with the astrologers in foretelling events. In Babylon, as elsewhere, healing was obscured by astrology and other superstitions. There were gymnasts, physical culturists and masseurs in Egypt.

Water, both hot and cold, was employed as a palliative in disease and in obstetrics. Macedonian women bathed themselves in cold water after childbirth, much as do modern primitives and the women of so-called backward countries. Heat and cold were probably employed through media other than water, in relieving symptoms. In the Asklepian temples water applications and hot and cold baths, including mineral water baths, were frequently used.

There is every reason to think that the ancient Greek *healers* were masters of the manipulative arts and that what we know today as massage, Swedish movements, mechanotherapy, osteopathy, bone setting, etc., was a highly developed system of palliation long before the time of Hippocrates. Chiron, the protector and teacher of Asklepios, is thought to have derived his name from *chiro*—hand—because he used his hands in healing. The term surgery or *kheirourhike* (*cheirurheia*) signifies manipulation or hand work and appears to have been originally employed as practically synonymous with our modern term massage.

Kleanthes A. Ligeros, M.D., Ph.D., of Athens, Greece, makes a bold effort to show, in his book, *How Ancient Healing Governs Modern Therapeutics* (G. P. Putnam's Sons, New York, 1937), that what we know today as chiropractic (which literally means hand practice) was employed in Ancient Greece. His efforts seem to me to be somewhat abortive, as his evidence shows that spinal massage and movements such as those that go under the name of Swedish movements were employed and not adjustments of supposedly subluxated vertebral segments. He does present considerable evidence that much attention was devoted to the spinal column and to the sacroiliac area of the back. He even presents evidence that similar surgical procedures were employed by the Egyptians. He dignifies this practice with the term *rachiotherapeutics*, which means spinal

therapeutics, a term synonymous with the terms originating in America, from Greek roots, spondylopractic and spondylotherapy. Macfadden devoted a large part of his mechanical physcultopathy to the spinal region.

It is too much for us to believe that the ancient Greeks and Egyptians, who had no conception of the functions of the nerves and no knowledge of their connections with the rest of the body, were engaged in attempting to remove pressure from the nerves to permit a better flow of nerve impulses. There is every reason to think, however, that much of their spinal manipulative work was designed to assist in correcting curvatures of the spinal column. Some of the votive tablets by grateful patients in the Asklepiian temples show the priest manipulating the upper dorsal spine. It is probable that many of the movements that are employed by the osteopaths were also employed by the Greeks.

If a man acquired fame by rubbing the swollen and sprained ankle of a prominent man or woman, the medical historians will list him as a great physician. Today he would be classed as a masseur. Herodotus mentions pre-Hippocratic physicians, such as Alemeon of Croton, pupil of Pythagoras, and Democedes, also of Croton, but these men were chirurgurians, employing their hands in reducing dislocations and trying to adjust skeletal distortions. Indeed, Democedes is said to have used his hands alone in his practices, and to have employed no instruments or tools that may be said to have belonged to any healing art. He was a chirurgus.

Much of the knife surgery in Homer revolves around the wounds of battle. Little of the surgery there involves the use of the knife at all. It was simply chirurgy. Indeed, what we have of Hippocratic surgery is largely bloodless surgery. The knife was not a prominent feature in surgery until much later.

A statement attributed to the traditional Hippocrates will indicate the importance that was placed upon massage in his era: "The physician must be experienced in many things, but assuredly also in (anatripsis) the art of rubbing, for things that have the same names have not always the same effects. For rubbing can bind a joint that is too loose and loosen a joint that is too rigid. Rubbing can bind and loosen; can make flesh and cause parts to waste. Hard rubbing binds, soft rubbing loosens; much rubbing causes parts to waste; moderate rubbing makes them grow."

Motorpathy, kinesipathy, statumination and other terms were applied, about the middle of the last century, to a method of care that consisted essentially in treating various chronic diseases by manipulating and exercising enfeebled muscles. Much pummeling of the body often accompanied this motion-curing. Perhaps it grew out of the Swedish Movement cure, which may be regarded as the parent of

all the modern manipulative techniques from massage to mechanotherapy to chiropractic to spondylotherapy.

The greatest evil that flows from the use of these measures is not their directly weakening and destructive effects, but the tendency of man to rely upon them to the exclusion of truly constructive care. They tend to displace, in his confidence, the normal ways of life. Mankind ran into trouble when the practice of palliating symptoms with heat and cold and with rubbing and manipulative procedures was permitted to substitute for sane regulation of the ways of life. When these measures came to be regarded as cures and sufficient in themselves to restore health, and the ways of life came to be neglected, this is to say, when curing disease supplanted the plan of adjusting the means of life to the needs and capacities of the sick organism, when therapeutics displaced hygiene, man took the wrong road and has had great difficulty in finding his way back.

As drugs later displaced heat and massage, so the latter displaced the older plan of regulating the way of life of the patient. What is today called physical medicine, but was formerly called naturopathy, was but a step in mankind's wandering away from his pristine way of life. Starting perhaps as part of the system of magic, water applications and massage grew into a system of palliation that, so far as the patient could tell, was more immediately beneficial than any change in the way of life could possibly prove. What was overlooked then, as now, was the fact that the apparent benefits were short lived. Pain could be relieved, but recurred shortly thereafter.

Pains may become so great that the patient cannot bear them and some form of palliation may be the lesser of two evils, but the palliative procedure should not be permitted to usurp the place of removing the causes of disease and the practice of providing the primordial requisites of organic existence in keeping with the needs and capacities of the crippled organism.

THE DRAGON'S TEETH

Chapter 14

The necessity for simple appliances in the care of wounds, the endeavor to stop the flow of blood or to set a broken bone, gave rise to simple surgical procedures in the early existence of man. The necessities must have called the inventive genius of mankind into play in his earliest stages. Surgery, as an art, at least in its simplest applications is, therefore, very old. We must learn to keep the surgical art and the medical art separate in our thinking, for they are different arts. No art has shown so much change and so little genuine development from its beginning to the present, as the medical art.

In Homer we learn that surgery, as we know it today, was chiefly employed in removing foreign bodies, such as an iron bar, a spear, or stone, or in setting a broken bone or in reducing a dislocation. The alleged medical practitioners we meet with in Homer are chiefly surgeons who treated wounds and regarded internal diseases as afflictions by the deities that were not amenable to their methods or were to be cared for by charms and incantations. The art of magic formed no inconsiderable part of the art of the surgeon. All of this is in agreement with Pliny who informs us that in the archaic period the "healing art" was confined to the treatment of wounds.

Circumcision, which is regarded as one of the oldest, if not the oldest surgical procedure, was practiced in Egypt seven thousand years ago. It has been widely practiced over the earth by many savage tribes and by many civilized peoples, in Asia, Africa, Australia and the Americas. Everywhere a magical or religious rite, this barbarous mutilation of males was never practiced in Europe in the past, or, if it was, all traces of it have been lost. Pythagoras was forced to submit to circumcision when he visited Egypt to study under the priesthood, but he seems not to have attempted to introduce the barbarism into Greece.

Tradition has it that the barbers were the first surgeons and there is an abundance of historical evidence to show that modern surgery evolved out of the work of the barbers, but there was surgery and there were surgeons before the barbers became so adept with the knife. Both the Egyptians and the Babylonians, though they had no system of medicine, had a system of knife surgery. The Code of Hammurabi, of ancient Babylon, which sought to curb the activities of the surgeons by heavily penalizing their mistakes, carried provisions that must have had a strong and wholesomely deterring effect upon their practices. There is also evidence that the Babylonians practiced

venesection, although the Greeks are generally thought to have originated the practice of letting the blood of patients.

The following provisions of the Hammurabi code are significant: "If a surgeon (the translator has employed the term physician in translating these lines) performed a major operation on a seignior with a bronze knife and has caused the seignior's death, or if he has opened the eye-socket of the seignior and has destroyed the seignior's eye, they shall cut off his hand." Again: "If a surgeon has set a seignior's bone, or has healed a sprained tendon, the patient shall give five shekels of silver to the surgeon." In this latter regulation, the code plainly deals with the manipulative work of the cheirurgus and not with knife surgery.

In the translation of the first of the foregoing regulations, the translator has supplied the phrase "major operation," indicating that the classification of surgical procedures into minor and major surgery had been made this early, a very unlikely assumption. But the fact that surgeons were opening eye-sockets does indicate that they had made considerable progress in their surgical techniques. It is conceivable that they were more advanced in the surgical arts than were Europeans in the Middle Ages. It was the custom in Europe, before the time of Paré, the barber surgeon, to slit a soldier's throat, when he was wounded on the march, lest he fall into the hands of the enemy, where he was almost sure to suffer a worse fate. European surgeons poured boiling oil into gun-shot wounds, a fact that will provide some idea of the barbarousness of our ancestors of the Middle Ages.

Internal surgery was not much practiced until after the discovery of anesthetics, although there is some evidence that the Greeks had knowledge of narcotic and anesthetic substances and that they sometimes employed these in surgery. Surgeons used to make their patients drunk before cutting off an arm or a leg. The death rate in surgery was high until after means were devised to tie off bleeders, patients dying largely from loss of blood. What is called infection was also responsible for many deaths, as medieval and modern surgeons, until within the lifetime of many now living, were very dirty in their practices. Cleanliness (asepsis rather than antisepsis) has also saved many from dying at the hands of surgeons.

Anesthetics and the reduction of the dangers of surgery have brought with them a great and growing increase in resort to the knife. The surgeon of today is as busy as the physician. Surgery has grown into one of the world's biggest businesses and it is a safe estimate to say that, excepting surgery in accidents, there is no excuse for ninety to ninety-five percent of the surgery that is now performed.

In surgery real progress has been made. The skill of the best modern surgeons is something remarkable. Their techniques have enabled them to perform operations that their predecessors would

never have dreamed of. No sane man can doubt that they frequently do fine and necessary work. On the other hand, no intelligent observer can doubt that there is altogether too much surgery performed; that most of it is not needed, and that there are many men performing surgery who would make better hod carriers. Surgery is no unmixed good.

NOISOME WEEDS IN PARADISE

Chapter 15

The belief in the healing power of herbs is an old one, although by no means as old as is generally supposed. This belief is still with us today in full strength. Modern herbalists assert that man turned instinctively to herbs when ill, as do animals, because these things have curative powers. They assert that "the great healing value of the juices of plants has been recognized, appreciated and used since time immemorial" and contend that "it is only when medical science in the past fifty years began to seek its remedies among artificial chemical preparations that the people, for a long time, were diverted from the good-old-fashioned, time-proven remedies" of the plant kingdom.

Sick animals fast; they do not resort to herbs. Popular superstition has it that sick dogs eat grass and that sick cats seek for and eat catnip, but these animal practices are as mythical as the healing values of the plant juices, or as the use of herbal remedies by primitive man. The shaman and priest employed herbs in their ceremonials, not as cures, for they thought that "it is god that heals," but as means of incantation. They also used the beaks of hawks, the talons of eagles, and other such things. Why not attribute curative powers to these things also. Among the medicine-men of the American Indians there was a practice of chewing up several herbs and spitting the juices on the chest of the patient. Not even the most enthusiastic advocate of the use of herbs as medicines can find in this practice a way to employ the alleged healing value of plant juices. It could have been nothing more than the ceremonial use of the plant juices.

Herbert N. Casson, author of *The Crime of Credulity*, says: "The medicine-man among the Indians monopolized the medical profession, treating the sick with incantations and decoctions of herbs. The latter did the healing, the former got the credit." It would be extremely difficult to determine which, the Indian or Casson, is the most credulous.

In their relations to animal and human organisms, there are two kinds of herbs: namely, the poisonous and the non-poisonous. The first are thought to be possessed of medicinal values; the second if digestible, are classed as food. The plant world is replete with alkaloids and glycosides, many of them deadly, others varying in degrees of toxicity short of lethal. It is significant that in all the ages since it was decided that plants have curative virtues, only poisonous plants have been conceived of as curative. Non-poisonous plants could be foods (nutritive herbs); they could not be medicines.

When it became the custom to use herbs other than ceremonially, there developed the practice of employing only those herbal substances that occasioned actions of resistance and expulsion. The rule was forgotten that no medicine was to be given which could not be swallowed with as little danger and disturbance as our ordinary foods. If no visible signs of activity followed the administration of the herb, it was supposed to be inert. Hence it came to be thought that only poisonous substances have medicinal values, for only poisonous substances occasion such violent actions as nausea, vomiting, gripping, vertigo, diarrhea, diuresis, pain, etc. What mistake more easily made than the one expressed in the old medical maxim: "Where there is poison, there is virtue." A peach, when eaten, was simply digested and assimilated and the eater was conscious of nothing more dramatic than a sense of well-being; a May apple (bitter apple) occasioned gripping and violent diarrhea; hence, the non-poisonous peach is a food, not a medicine; the poisonous May apple is a medicine, not a food.

The actions of resistance and ejection that followed the taking of these poisonous substances were attributed to the poisons and not to the efforts of the body to protect itself from injury. For example, it was thought that the May apple acted on the bowels to produce diarrhea; it was not recognized that the bowels acted to expel the May apple. Other substances acted on the stomach to produce vomiting; it was not understood that the vomiting was the action of the body in expelling the poisonous emetic. Turpentine, derived from the pine tree, acted on the kidneys to produce diuresis; whereas, in sober reality, the increased action of the kidneys was action to expel the harmful turpentine. All the action was performed by the living body, none of it was performed by the drug which lacks all power of action. This reversal of the order of nature has been the source of much suffering and of millions of deaths.

The number of poisonous herbs employed today runs into many thousands; the pills, powders and potions made from these, the ingenuity displayed in compounding them, the blind credulity with which they are both prescribed and swallowed, stagger the human imagination. It is a serious mistake to suppose that a vegetable poison may not be as great an evil as a mineral poison. Indeed several of them are more virulent than any known mineral. It is noteworthy that all herbs that are declared to be medicinal, those that occasion a so-called "physiological effect," are poisonous. Some are but slightly poisonous others are exceedingly virulent.

It is a strange delusion that holds that substances must be poisonous to be medicinal. If it will produce disease when given to the well, if it will produce death, it is a curative. If it will kill the strong it will strengthen the weak. If it will sicken the well, it will restore health

to the sick. The deluded devotees of the cult of poison went so far as to declare that: "Our strongest poisons are our best remedies." The search for poisonous plants to cure disease has gone on for over two thousand years and is still in progress.

That the link between the witch-doctor and medical science has never been broken is shown by frequently publicized reports of research going on all over the world in the search for new drugs. The Science Editor of the *American Weekly*, November 1959, highlighted this search amid the brews of the witch-doctors for new cures in an article entitled: "The Search for Life-Giving Herbs." His subtitle is significant: "Witch-doctor's secrets may be the key to tomorrow's miracle drug." In the article he tells us that "reports that filter back from the jungles and mountain fastnesses of Africa, Asia, and South America are triggering ambitious research expeditions." Also: "in Borneo, missionaries scooped up moulds and herbal decay and sent them for analysis to American pharmaceutical houses. On five continents, 750 physicians and other medical people at 170 clinics and hospitals run by California's College of Medicine are collecting plants and folk remedies, and sometimes seriously conferring with herbal witch-doctors as they stir their brews."

I can think of better work for missionaries to engage in than that of searching amid the manure piles, garbage heaps and centers of decay for filth to supply scientists and medical men with materials in which to seek for cures for human ills. I have no objection to the flocking together of birds of a feather—Physicians with witch-doctors—but why shall men and women of other professions befoul themselves by such illegitimate associations? Let medical men continue the search for plant poisons with which to *cure* disease; sane men and women should use their intelligence. When we read that seven hundred and fifty American savants have been sent to the "four corners" of the earth to probe the secrets of sorcerers, healers, witch-doctors—black, yellow, red, brown and white—and to discover, if they can, how these practitioners of the "healing art" effect their cures, we realize afresh that the medical profession still attributes recovery from disease to external agencies and does not recognize the self-healing power of the living organism.

SHADOWS ON THE MOON

Chapter 16

In my boyhood and even into my young manhood, the superstition was still much believed that the "dog days" were unfavorable to health. I presume that this superstition, like hundreds of others, is still cherished by millions of people. It is an old superstition and goes back to ancient Sumer. Homer tells us that "the star which is known to man as the Dog of Orion, though brightest of all is yet withal a sign of evil, and bringeth much fever upon wretched mortals." I wonder how many of us realize how ancient most of our superstitions are; that great numbers of them were bequeathed to us by our prehistoric ancestors?

Sirius, the Dog Star, is supposed to bring the summer heat. It is visible in the Near East for the first time just at the end of July, therefore its name is connected with the hottest days of the year—the "dog days." In *Air, Water and Locality*, one of the "genuine books of Hippocrates," we read: "Attention must be paid to the rise of the stars, especially to that of Sirius, as well as the rise of Arcturus, and, further, to the setting of the Pleiades, for most diseases reach a crisis during such periods, some of them abating in these days, others ceasing entirely, developing into other symptoms and different conditions." This may help us to understand something of the influence the stars were supposed to exercise upon human life and welfare.

As early, at least, as the Sumero-Akkadic period people had learned to connect their destinies with the heavenly bodies and their orbits, for they thought the sun, moon and stars were individual living beings—divinities. Even the seventh day of the week, the day of rest, received its special significance from astrology. The Chaldean story of creation is recorded upon seven clay tablets. The fifth tablet contains these words: "the seventh day he instituted as a holy day, and ordained that man shall rest from all labor." Why the seventh day? Because the holy number seven of the planets imperceptibly shone through the work of creation and was indelibly impressed upon the entire order of thought.

The development of Occidental as well as Oriental astrology both ancient, medieval and modern, drew its resources from the ancient Babylonian, Assyrian and Egyptian doctrines; the Greeks seem to have derived their astrology from the Egyptians. Astrology was a part of the lore of the Egyptian priests and of the priesthoods of Assyria, Greece and Rome, as well as of the philosophers of antiquity. Indeed, several of the great names in astronomy, men who lived in the early years of

the modern era, were astrologers and spent much of their time charting horror-scopes. I need hardly remind my readers that the superstitious belief in the influence of the stars upon human activity has survived until this day and is currently believed in by millions of people. Indeed, every newsstand bears mute testimony to the fact that there are far more people interested in astrology than in astronomy.

Democritus, a famous philosopher of classical Greece, was also an astrologer. It should not surprise us, then, to learn that astrology became a part of medicine and remained a part of it until recent centuries. Indeed, as late as the time of James the first of England, the study of judicial astronomy was thought necessary to a physician. In an examination of a noted impostor, by the London College of Physicians, there are among other questions put to him, and his answers thereunto, the following:

"Being asked in astrology what house he looked unto to know a disease, or the event of it: and how the Lord ascendant should stand thereto:

"He answereth, he looks for the sixth house; which, being disproved, he saith, he understands nothing therein but what he hath of *Caliman*; and being asked what books he hath read in that art, he said he hath none but *Caliman*."

Although there is the implication here that the medical authorities did not regard *Caliman* as a reliable authority in astrology, they do seem to have laid considerable stress upon a dependable knowledge of astrology by the physician that he may know disease and "how the Lord ascendant should stand thereto." It would seem that astrology had made great progress since the day of the Babylonians. It was now able to determine the relation of Jesus to the patient's disease. This knowledge was of great importance to the physician.

Long after this time many physicians continued to make use of astrology. In many parts of the world, including this country, many practitioners of the several schools of so-called healing still include astrology in their practices. The Babylonian priesthood still influences the minds and actions of modern peoples, although we have long since ceased to think of the stars as gods and goddesses.

At a much later date Webster's *History of Pestilences* "showed" that, for several hundred years the "perihelion periods of Jupiter coincided with pestilential periods," and Hecker's *Epidemics of the Middle Ages* (page 52) says: "Of the astral influence which was considered to have originated the 'Great Mortality,' physicians and learned men were completely convinced of the fact of its reality. A grand conjunction of the three superior planets, Saturn, Jupiter and Mars, in the sign of Aquarius, which took place, according to Guy de Chauliac, on the 24th of March, 1345, was generally received as its principal cause."

Even at a much later date a physician residing in Mexico (his name is given as both Knight and Knapp) writing in the June 1872 issue of the *New York Medical Journal*, devotes twenty-five pages, in an elaborate article, to tracing the historical connection between the perihelion periods of the large planets and the prevalence of pestilences for several hundred years and "shows" from indisputable historical data, that the most pestilential periods ever known on earth were coincident with the joint perihelion of several large planets. He observed, from astronomical data, that the perihelion of all four of the great planets would occur between 1880 and 1885 for the first time within the knowledge of man. He was much concerned with the effects this would have upon the earth, predicting that it would be subjected to the most serious ordeal of earthquakes, tornadoes, and other atmospheric and telluric disturbances and famines and pestilences, such as it had never experienced before. The near approach of the sun to the large planets, Jupiter, Saturn, Uranus and Neptune disturbed him very much. The fact that a leading medical journal would publish such an article argues that there remained in the minds of medical men, a lingering vestige of their former belief in astrology.

Beginning in the last century and frequently referred to today, we have been reminded of the possible connection of sun spots with epidemics. Crediting sun spots with culpability in these instances seems to be no less rank, as a superstition, than that of placing responsibility for epidemics upon the stars. It seems to be very difficult for the system of magic to outgrow its mistakes. Once a part of medicine, always a part of medicine, seems to be the maxim.

Efforts are made to show that Hippocrates rejected astrology. The following words are often quoted as evidence of this alleged fact: "For this reason I believe that it (medical art) requires no basis of vain presumption, such as the existence of invisible and doubtful factors, the discussion of which, if it should be attempted, necessitates a hypothetical science of supernatural or subterrestrial nature: for, if anyone should contend that he knew anything about such a matter, neither he, the lecturer, nor his hearers would clearly understand whether his statements were true or not, because nothing exists to which reference could be had for purposes of verification."

It will be noted that there is not, in this statement, any direct reference to astrology and it may be injected here only by inference. In several other statements to be found in the works attributed to Hippocrates, there are direct references to astrology and these are of such a character as to leave no doubt that he believed in the vagaries of astrology. We know as a simple matter of historic fact that at that time astrology was well mixed with what was called medicine and that it continued to be an integral part of medicine for centuries to come.

If we say that the foregoing statement by Hippocrates

constitutes a definite refutation of "a medicine that depends on witchcraft," we cannot, at the same time, assert, on the basis of either this statement or of that of other materials found in the *Corpus Hippocraticum* that it also constitutes a definite refutation of the absurdities of astrology. On the other hand, such ideas as he does express had common currency during the Hippocratic period, when he says: "He who knows how the changing of the seasons and the rising and setting of the stars take place will also be able to foresee how the year is going to be. Therefore, anyone who investigates these subjects and predicts coming events will be thoroughly informed as to each detail of the future; he will enjoy the best of health, and take as much as possible the right road in art. However, if anyone should be of the opinion that these questions belong solely to the realm of astronomy, he will soon change his opinion as he learns that astronomy is not of slight, but of a very essential, importance in medical art."

The translator has employed the word astronomy to translate what, in the original, is probably astrology. This is of no serious consequence, however, except as evidence of the effort of medical men to cloak the origins of their practices with a mantle of respectability, as in either event, he recognizes the office of the stars in promoting health and disease. When he stated in his *Aphorisms* that "purging is very difficult during or before the dog-days," he certainly had astrology in mind. The effort to cleanse the Hippocratic stable of its accumulation of ancient superstition ill becomes the medical "historian."

When, during the fourteenth century, the medical faculty of Paris, the most celebrated in Europe, were requested to give their opinion of the cause and *cure* of the Black Death, they came up with a very remarkable document, part of which follows:

"We, the Members of the College of Physicians of Paris . . . declare as follows: It is known that in India and the vicinity of the Great Sea, the constellations which combat the rays of the sun, and the warmth of the heavenly fire, exerted their power especially against the sea, and struggled violently with its waters. The vapors which originated rose and fell alternately for twenty-eight days; but, at last, sun and fire acted so powerfully upon the sea that they attracted a great portion of it to themselves and thereby the waters were in some parts so corrupted that the fish which they contained died. This vapor has spread itself through the air in many places on earth, and enveloped them in fog.

"We are of the opinion that the constellations, with the aid of nature, strive by virtue of their divine might, to protect and heal the human race; and to this end, in union with the rays of the sun, acting through the power of fire, endeavor to break through the mist. Accordingly, within the next ten days, this mist will be converted into an evil-smelling rain, whereby the air will be much purified.

"Now, as soon as this rain shall announce itself, by thunder or hail, everyone of you should protect himself from the air. Kindle large fires of vinewood, green laurel, or other green wood . . . Poultry and water-fowl, young pork, old beef, and fat meat in general should not be eaten. Broth should be taken seasoned with ground pepper, ginger and cloves. Sleep in the daytime is detrimental. Cold, moist, watery food is in general prejudicial. Too much exercise is hurtful. Fat people should not sleep in the sunshine. Olive oil as an article of food is fatal. Equally injurious is fasting, anxiety of mind, anger and immoderate drinking. Bathing is injurious. Men should preserve chastity as they value their lives."

The Bubonic Plague was caused by a battle between the sun and the Indian Ocean! It was spread over the earth by fumes arising from the ocean as a result of the intensity of the struggle. The Plague may be prevented by drinking broth seasoned with pepper, ginger and cloves. Fat people should beware of sunshine, nobody should sleep in the daytime. Bathing is injurious; olive oil is fatal. Fasting is equally as injurious as the oil. Only the beneficence of the constellations saved the European segment of mankind from extinction.

Astrology was a religion. To the Chaldeans the stars were gods. It was the cult of the stars as divinities that led to observation, records and charts. That these observations of the movements of the celestial bodies ultimately led to astronomy is true, but astronomy could come into existence only after the stars ceased to be divinities. Nor were the original observations made by savages. It was not savages who first conceived of the heavenly bodies as gods and goddesses. The religion of astrology was not the creation of savages. Rather it was the creation of a highly civilized people. If there are savages who believe in astrology, they received the superstition from civilized peoples. There are more civilized people in the world today who believe in the absurdities of astrology than there are savages in the world. Just as astrology was hatched in the cunning brain of a civilized priesthood, so magic and ultimately medicine were hatched in the fecund brain of the same cunning and exploiting priesthood.

WITCHES IN EDEN

Chapter 17

The beginnings of new systems are ever shadowy and none more so than the beginnings of that system of poisoning the sick that has received the name medicine. No one can say at precisely what period drugs were first used as therapeutic agents; at what period the herbal and animal parts, that were originally used as ingredients of incantatory rituals, were divorced from the rituals and became medicines, but this is not a matter of great importance. There is no reason to doubt that the employment of herbal and animal substances as medicines was an evolution out of their prior magical uses. Our researches so far, have brought out the facts that man brought with him into the historic period, the following:

1. The instinctive hygienic practices that belong to him as a way of life and which practices antedate all else that he does. Hygiene was not the sole possession of man; it is a universal mode of care, belonging to all organic existence, plant and animal. The more highly developed the organism, the more evident does it become.

2. Religious healing, which consisted of efforts to persuade the angry deities, who had sent illness upon the patient, to restore him to health.

3. The system of primitive magic, which originated some time prior to the dawn of history, and by which men sought to control the forces and processes of nature.

4. Certain palliative measures—massage, manipulations, hot and cold applications, etc.

5. Surgery, largely employed in the treatment of wounds, most of it being of the knifeless kind.

6. The rudiments of the drug system, which grew out of the system of magic, consisting largely of herbal and animal substances that had been used initially as elements of incantatory rites.

7. Astrology, which may be properly regarded as a part of the religious healing practiced by prehistoric and early man, as the stars were regarded as divinities.

We have shown that there was no medicine and no medical practice in any of the nations of antiquity and the barest rudiments of such a system in Egypt and Greece. What we call the practice of medicine arose in Greece. All ancient peoples were dominated by priestly orders. Among the Sumerians, Babylonians, Egyptians, Hebrews, Persians, Indians and other ancient peoples, a large group of

functionaries were priests. The temples were their most magnificent buildings. They were priest-states and quasi-priest states. In Greece alone of ancient nations, the hold of the priesthood on the public mind was weak. Secularity permitted the Greeks to question everything and write books about everything. They left us not a single book of "revelations" and not a single authoritarian work.

Although not uninfluenced by their many priests and not unmindful of their temples, theirs was, more than that of any other ancient nation, a secular and not a priestly way of life. This released their mental energies for constructive and fearless thinking. As they did not spend their time pleasing and placating an unseen power and its representatives, they could devote their energies to forward movements. Even in the opening pages of Homer's *Iliad*, Agamemnon defies the gods and demands the right to hold what had fallen to his lot as a prize of war, even if it did displease Apollo. There was no abject submission to the "will of God," which has always meant the will of the priesthood.

Thus it was that the Greeks were able to advance in the arts and sciences far beyond that of the other nations of antiquity. It was also this fact that brought about the separation of the care of the sick from the priestly office. The most unfortunate development out of this separation was the fact that the leeches transferred the power to heal from the gods to the herbal and animal substances that the priests had employed as elements of their incantatory rites, so that the "hands of the gods" evolved into a complex system of poisoning the sick.

When J. D. Bernal says in his *Science of History* (Cameron Associates, Inc., New York, 1954) that: "Greek medicine, like Greek mathematics, is an unbroken continuity with the medicine of the ancient civilizations" he assumes, as do all writers on medical history, that ancient civilizations had a system of medicine, but they do this only because they regard the magical and religious practices as medicine. That medicine evolved out of ancient magic is freely admitted by medical men. In *Myth, Magic and Medicine*, Donald T. Atkinson, M.D., the author, frankly entitles his first chapter: "Magic, Generator of Scientific Medicine." Like all other physicians, he is so brainwashed and conditioned by the magic that is today denominated scientific medicine that he is unable to recognize that magic started medicine in the wrong direction and that the profession has never reoriented itself. Medicine least of all of the "learned professions" has divorced itself from its ancient teacher. Atkinson thinks that in the "dark ages of prehistory magic held steadfastly to the minds of men" (a statement typical of medical thinking: anyone else would have said that the minds of men held steadfastly to magic) and that "after thousands of years, as history began to dawn and tabus gradually fade away we still find magic in all of its darker forms."

His last statement but confirms my thesis that history was not a new beginning, but was a continuation of prehistory. If man brought magic with him from the period of prehistory, he also brought much that was not magic. That the magical and non-magical were intermingled and mixed in an apparently hopeless mishmash makes it necessary for us to unscramble the conglomeration.

Before we can discuss the origin of medicine we must have some idea of what we are to understand by medicine. Let us begin, then, by defining the system, the origin of which we are trying to determine. The dictionary defines medicine as "the art of healing." A medicine is a "healing agent." While traditionally and etymologically correct, these definitions are false, for the following reasons:

1. Healing is a biological process, not an art.

2. There are no healing agents.

3. Historically, medicine has been an art, the only relation of which to healing has been to retard and prevent it.

As healing is a biological process, not an art, there is no such thing as a healing art and there are no medicines, no healing agents. All healing is done by the living organism and is the outgrowth of the lawful and orderly processes and forces of life. It is not something that is done to or that is done for the living organism but something that the organism does for itself from within. All so-called medical systems are illusions and frauds.

Traditionally and historically, medicine has been the art of administering drug poisons to the sick. While it is true that a literal translation of the term medicine is healing or a healing agent, this broad original sense of the term is not meant when the word is employed. The terms medicine and medicament, in the limited modern sense in which they are used, refer to those substances and their administration, the trade and preparation of which, are the peculiar privileges of the apothecaries (the Greek meaning of apothecary was "a man who puts things in order"), comprising the various kinds of poisons. There is not a single poison known to man that has not been administered to patients suffering with disease or that has not been tested in experiments in the hope that it will prove curative, and this has all been done with both the permission and the sanction of the state. Hence, we are legally and historically within our rights when we declare that medicines are poisons, the "art of medicine" is the art of poisoning the sick.

What we seek, therefore, is the origin of the drugging system, not the origin of magic nor of hygiene. Medical historians believe that the drugging practice originated in Egypt and that Hippocrates or some of his immediate predecessors or contemporaries introduced Egyptian medicine into Greece. Chiron and Pythagoras are also both credited with having introduced Egyptian medicine into Greece. However, there

was no class of physicians among the Egyptians that was distinct from the priestly class. If the drugging practice originated in Egypt it evolved out of the ceremonial uses, by these priests, of herbs and animal parts. It is impossible to think highly of such an origin.

The fact is that history does not answer the question: Who first started the drugging practice? Certainly its initial beginnings are found in pre-Hippocratic times. There were drugging practitioners in Greece who were contemporaneous with Hippocrates and, indeed, there is some thought that Acron was his predecessor. It seems certain that the drugging practice was started shortly before the time of Hippocrates. Perhaps, initially, it had its origin many years before his birth.

Centuries before the development of the medical profession, there were those among the Greeks who cared for the sick, but that these people practiced medicine, as the term is now understood, is supported by no clear evidence. The assumption that they did so, rests wholly upon inferences of doubtful value. It was in Hellas, however, that the care of the sick first became divorced from the work of the priesthood, hence it is here that the system that we know as medicine had its origin. Perhaps we look upon Greece as the birthplace of medicine for the reason that we have learned to look upon Greece as the fountain from which all blessings flow.

There have been frequent efforts made by medical historians to show that Greek medicine did not originate with the Egyptians. As an example, Prof. A. Laboulbene says: "The Egyptians produced signs of civilization, but in my own opinion, they were wrong in considering themselves as medical teachers of the Greeks. The Greeks had their original geniuses, lawmakers as well as philosophers, Solon, Democedes, Alemæon, Democritus, Aristotle, and others, and sought no other road of learning outside their own country."

However much credit is due Greek thinkers, they were rarely original. Most of Greek civilization was a reflected light. Wilder says: "Perhaps no other people received more from other countries than did the Greeks, and none appear to have been more tenacious in the pretense that all their attainments originated with themselves." This is a general trait of mankind, but I think that the Greeks did not borrow medicine from the Egyptians for the reason that the Egyptians had no medicine to lend. The Greeks must accept full responsibility and all blame for fostering this form of insanity and saddling the race with it. From Hellas it traveled both east and west until it circled the globe and has been an unmitigated curse to the whole human race.

The Greeks borrowed liberally from the Babylonians, Egyptians, Assyrians, Phoenicians and others, their borrowing growing in volume with the Alexandrian conquests. Their philosophers, almost without exception, traveled and studied all the lore of the eastern nations and of the priesthood of the Egyptians. Of the Greek

philosophers it may be truly said, as the Bible says of Moses—they were learned in all the wisdom of the Egyptians. Thales is said to have been one of the most widely traveled men of ancient Greece. Although much honored as a scientist, he believed the earth to be living and filled with spirits and advanced the idea that the planets also have souls. Although he was not a man who wrote much, communicating his ideas vocally to his friends, he is reported to have written a work on *Natural Astrology*. Like the other learned men of ancient Greece, he was a magician and an astrologer.

Going to Egypt to study medicine, the Greeks submitted to a rigid system of discipline and to a variety of irksome and burdensome ceremonies, but acquired little more than a knowledge of magic and incantations, with certain crude notions about the applications of “external remedies” to the care of wounds and skin diseases. They were given some very imperfect ideas of the anatomy of the human body and some crude conceptions of its functions. The unbiased student of the medical and surgical writings of the Egyptians finds that they contributed practically nothing to these arts.

On the other hand, when the statement is made that sacerdotal medicine was well identified with Orientalism, which fact is unshaken evidence that Greek medicine was Greek, it is sought to convey the thought that in Greece, unlike Egypt, Babylon, Assyria, Phœnicia, Persia, Scythia and elsewhere, medicine evolved independently of the priesthood. This effort to provide Greek medicine with a secular origin and a quasi-scientific background is not justified by the facts of history and must be branded as irresponsible propaganda. It is only fair to add that there are medical historians who doubt that the Greeks borrowed medicine from the Egyptians.

In Homer we get glimpses of what appear to be the beginnings of a system of drugging, although it is so mixed and mingled with magic and incantatory rites that we cannot be sure of this. His frequent references to herbal substances that “slay pain,” which were applied to wounds, indicate that the Achæans had found and learned to apply analgesic and narcotic substances, which they always applied locally. Homer has the beautiful Helen to give a tranquilizer to Telemachus in an effort to cause sleep and forgetfulness. “She cast into the wine of which they were drinking a drug to quiet all pain and strife, and bring forgetfulness of every ill. Who would drink this down, when it is mingled in the bowl, would not in the course of that day let a tear fall down over his cheeks; no, not though his mother and father should lie there dead.” He tells us that Helen had received the drug from Polydamna, wife of Thone—“a woman of Egypt, for there the earth bears greatest store of drugs, many that are healing when mixed, and many that are hurtful; there every man is a physician, wise above human kind.”

If Homer's story is accurate in most of its details, it may be that knowledge of such herbal substances was also possessed by the Egyptians at this same time. He says of Egypt: "The bounteous land produces very many drugs; many of them are excellent when combined, and many are deadly; and each physician possesses knowledge above all men, for indeed, they are all of the race of Paieon." It is not likely that Homer used a term that is synonymous with the Saxon term *drugan* (dry), which we have shortened into drug, and it is reasonably certain that he did not use the term physician nor any term equivalent to it. The members of the "race of Paieon" were the Egyptian priesthood; their "wisdom" was the arcane and magic lore of sacerdotal orders.

Homer's remark may be taken to indicate that the employment of poisons in the treatment of the sick had its origin, as is generally thought to be true, in Egypt. That poisons were employed with which to kill, if not to cure, is evident from a remark in the *Odyssey* where Antionous suggests that perhaps Telemachus would go to Ephyra, "fruitful land, to fetch a poisonous drug that he may cast it into the bowl and make an end of all of us." But there is no evidence in Homer that, at that early date, the notion had arisen that killative substances were the proper means of restoring health to the sick. I would point out also, that they were not sedatives and tranquilizers that Homer describes as being employed in great grief and the crying and weakness that accompany these. Instead, he records that in such an unhappy state of mind rest, fasting, music, song, games and dancing were employed.

In the story of Helen the translator has garnished the fable with the terms drugs, healing and physician, in spite of the fact that Homer indicates that the helpful herbs are the non-poisonous ones. We know from Egyptian history that the secrets of the priestcraft that may be, by considerable stretching, classed as medical secrets, were kept carefully hidden from the people, who were also kept in ignorance. Every Egyptian was not a physician and they were not wise above human kind.

Homer indicates that the Achaeans were also acquainted with the mind-beclouding effects of alcoholics. He tells us how Ulysses employed acrid or torpid wine to overcome the Cyclops, blinding him: "when the wine had stolen the wits of the Cyclops." Hermes warned Ulysses of Circe, telling him: "She shall mix thee a potion, and cast a drug into the food, but even so she shall not be able to bewitch thee, for the potent herb ... that I shall give thee will not suffer it." Although the translator has employed the term drug with which to translate the term used by Hermes to designate the substance that Circe would put into the food of Ulysses, it is not at all likely that Homer employed any term that is synonymous with the term drug. The potions mixed by

Circe were parts of her sorcery and, although it was out of the employment of herbal and animal substances in sorcery that their use, as drugs, evolved, they were not at first employed as drugs. Even the antidote that Hermes supplied to Ulysses was an antidote to sorcery; it was, in other words, counter-sorcery.

Thus we have evidence that, even before the dawn of history in Greece, at least, herbal substances were known that would today be classed as analgesics, narcotics, tranquilizers and perhaps, hypnotics; but there is little, if any evidence that they were, at the time, employed in the care of the sick. The step from their employment by sooth-sayers to their employment in the care of the sick is but a short one, as is shown by the statement which Plato puts into the mouth of Socrates, who, talking of the mid-wives of Greece (all women) said: "And by use of potations and incantations they are able . . ." The translator forgot his duty here and did not use the term drug to translate the Greek word for potations.

The Greeks seem not to have been able to make up their minds who it was who first taught the arts of healing. Apollo, Chiron and Asklepios are chief contenders for the doubtful honor, but Aristophanes (420 B.C.) credits Musaeus with having been the discoverer of healing, saying: "Musaeus pointed out to us clearly the cure of disease, and also the oracles." Aristophanes probably used no term meaning *cure*, while his connection of Musæus with the oracles places him in the class of diviners. Musaeus was a celebrated poet-healer of the Homeric or mythical age, whose time is "fixed" at 1295 or 1250 or probably, before 1399, B.C. He is said to have been a contemporary and pupil of Orpheus. When writing myth and not history, an author seems privileged to choose his own hero hence the Greeks had many "discoverers" of the art of healing.

Although Chiron is credited with having taught the healing art to Orpheus, Linos of Thebes (1399 B.C.), reputed to have been the son of Apollo and Urania, is also credited with having taught the healing art to several of the heroic practitioners, including Orpheus. It is not possible to separate the true from the false in all of these legends of the origin of the healing art. The significant thing that stands out in all of them, in my judgment, is that they all indicate that the healing art was of comparatively recent origin. None of the legendary heroes of healing were of remote antiquity.

The priest-healers of legendary Hellas—Melampus of Argus; Orpheus, the poet-singer and contemporary of Hercules, who lived about a hundred years before the Trojan war, and who became famous for introducing music into the healing practices; Chiron, the Centaur of Thessaly, who was brother of Jupiter and was noted for his skill with his hands—acquired great reputations as healers. Chiron taught the arts of healing to Asklepios, Orpheus, Jason, Achilles (Achilles was

from Thessaly, the home of Chiron), Castor, Pollox, Cephalos, Hercules, Meleager, Melanion, Amphiaraus, Diomedes, Antiochris, Aeneas and others, all of whom, Xenophon assures us, were greatly honored by both men and the immortals. Plutarch tells us that Achilles was a vegetarian, while Homer has him fasting at Troy. Homer praises both Nestor and Nereus as healers and makes special mention of the healing abilities of Agamemnon, daughter of Anceus, wife of Menelaus.

Orpheus was a remarkable shaman in whose honor the Orphic games and mysteries and the Orphic rites were later created. He is reputed to have been the first to teach healing, philosophy and poetry and to have been the first to introduce music into healing. Although he is commonly regarded as having been a pre-Asklepian legendary figure, the fact that he was taught the healing art by Chiron, would make him a contemporary of Asclepius. The rules of life of the Orphic societies, which may or may not have been reminiscent of the teachings of Orpheus, were based on asceticism, purity in living and vegetarianism. Bathing, singing, music, gymnastics and other forms of physical exercise formed regular parts of the daily lives of those who belonged to the Orphic societies.

In the Bible we find David employing music in overcoming the melancholy of Saul, whose melancholy was attributed to an evil spirit. The melodious sound of David's harp exorcised the imp. At the time of Orpheus, disease was supposed to be a visitation of divine providence and it is most likely that he employed it to appease the wrathful gods. The songs were to the gods; the music was supposed to have charms that would soothe the savage breast even of the god. Our lingering faith in magic causes us to attribute healing virtues to music and much effort is made to rationalize its therapeutic employment. In spite of all that is said in its favor, it has no more healing power than the flowers that bloom in the spring. The magical origin of song and music as healing modalities should cause us to suspect all efforts to justify their employment in the sick room.

Medea and Jason are both listed among the legendary Greek ministers of the god of healing. Medea was a notorious killer, notorious for her employment of poisons. Jason is said to have been gentle and noble. He learned his work from Chiron and from Medea, who excelled her mother and elder sister in her knowledge of poisons. Circe and Calypso were priestesses or demi-goddesses who are also said to have been healers and had considerable knowledge of poisons.

There is a long list of pre-Homeric men and women who are classed by uncritical historians as physicians. They were priests, priestesses, soothsayers, diviners, masseurs, gymnasts and some of them are classed as physicians. Homer's prophet, seer or healer was no physician as this term is now understood. Listed among the medical practitioners as representative of their craft, are the priestesses Hecate,

Circe and Medea and the priests and diviners Melampus, Orpheus, Musæus, Aretæus, Amynos, Aristomachus, Calchas, Phineas, Teiresias, Chiron and Asklepios. All of these men and women are merely traditional figures, the stories of them are clearly mythical and are always mixed and mingled with stories of the gods. All of them belonged to the sacerdotal class.

Numbers of these mythical healers were lionized and even deified after death. After the death of a hero, legends cluster quickly about his name and fancy imputes to him every wisdom and all good judgment which fantasy may invent. Much of the marvelous skill of the sons of Asklepios is not described in Homer, but was bestowed upon them by Greeks who wrote centuries later. Plutarch even records Homer as one learned in medicine. The mind weaves legends as the loom does silk. It is none too light a task to separate the truth from the purely fictional in these myths, yet there is reason to think that a sure foundation in fact underlies them. Beyond the myth the truth of the real event lies hidden. All the stories of the various legendary healers are alike in that each bears an air of verisimilitude to the gods.

The determination of the medical profession of the present to make the term medicine cover the whole of life and not merely healing is, in part at least, responsible for the inclusion under this the term of great numbers of superstitious practices, that, while they are often, but by no means always employed in dealing with the sick, can certainly have no relation to healing. Nobody pretends that prayer is medicine. Nobody pretends that the "laying on of hands" is medicine. Nobody pretends that a chiropractic thrust is medicine. Nobody even supposes that fasting is medicine. Neither the wise nor the ignorant think that a thirsty man, in taking a glass of water, is taking medicine. How foolish to class as medicine, the chants and incantations of the shaman! If the Indian medicine-man rattles a pebble-filled gourd to scare away the evil spirits that he thinks are tormenting the sick, this can be classed as medicine only by a medical "historian."

It may be contended that it matters not what name we give to a practice; the greater question is what content did it possess. The reply to this is two-fold. First, the term medicine has a definite meaning (healing) and is not an indifferent name. To call a practice the practice of healing, when it has no relation to healing, is to mis-brand it. The content of medicine has no relation to healing. Second, as its content is constantly changing, no possible description of the content of the system that is called medicine will fit it for any considerable period, but it may be said to consist, in general, of various techniques and means that are applied to the sick with a view to curing disease, which have no healing powers at all. For the most part, indeed, its modes and means are disease-producing. Every departure from the primitive means of caring for the living organism, every reliance upon

adventitious and exotic means and measures has proved to be hurtful rather than genuinely helpful.

I wish I could stop by saying merely that medicine, as it exists today, is filled with sterile platitudes and synthetic predictions of glories to come, but it is impossible to overlook the fact that its ever-changing theories are false and its evanescent practices are destructive. It is not a mere vacuum, but a positive evil. A profession that possesses so strong a conviction of its own glory, as does the medical profession, is not likely to quickly recognize the fact that its very existence is a menace to the welfare of the entire race. Being anaesthetized by the sweet essence of self conceit, it is not able to see the handwriting that even now is being inscribed on the wall. The whole insubstantial structure is ready to collapse. Lacking any solid foundation for its practices, its very searchings for knowledge of human function have provided the knowledge necessary to destroy it. So must come the ignominious collapse of the greatest and not least successful fraud of all history.

MEPHITIC VAPORS

Chapter 18

In his *History of Medicine* Alexander Wilder, M.D., says that "the history of the Healing Art is as old as the history of the human race," although "the amber of antiquity has not preserved the name or any monument of the benefactor who first ventured upon the attempt to relieve the maladies of his fellow-beings." These assumptions, that the so-called healing art is remotely primitive and that it is a benefaction to the race, are not borne out by the facts. Medical historians labor long and hard in their effort to create a medical profession out of the dried bones and broken pottery they grubble from amid the shards and middens of ancient magic lore and practices. By the touch of their magic wand, the ancient priest and sorcerer become physicians, their rites and ceremonials a healing art, the substances they employed in their incantatory rites medicines. Because he mentions the head, the nose, the eyes, the jaws, the neck, the shoulders and arms, the hands, legs, feet, heart and a few other parts of the human body and because he employs Greek names for these organs and parts, several medical "historians" credit Homer with an almost modern knowledge of anatomy and elevate the blind street singer to the status of a learned physician.

Galen, it seems, in one of his lost treatises, set the pattern for exalting the medical knowledge of Homer. Many alleged historians have followed his lead. I agree with Robinson that "there is certainly no basis for this enthusiasm—Homeric medicine is really as meager as Biblical medicine—and it is only by commenting upon each word and magnifying every allusion that we are able to produce a tract on the subject." I would simply add that those who would make Homer the possessor of great medical knowledge have had considerable help from the translators, who have used the terms medicine, cure, physician, drug, etc., to translate Greek words that had no such meanings.

Homer's alleged medicine is practically all references to wounds and this is best described by the words of Idomeneus to Nestor: "For a leech is the worth of many other men for cutting out of arrows and spreading of soothing simples." When Robinson himself slips in his logic and pictures Achilles as a physician "bandaging Patroclus," as a "landmark in art and medicine," he but reverts to the effort to create a *medical* profession at a time when there was no such profession.

Professor Walter Libby, M.D., of Cambridge University, wrote in his *History of Medicine* (Boston and New York, 1922, pp. 20-21): "One might be tempted to ascribe to them (the Babylonians)

the knowledge of a form of massage; but the impression must not be created that the medical science of the Babylonians ever attained any considerable development. At its best it was obscured by astrology and other superstitious beliefs, and at no time completely emerged from the primitive stage. In Babylonia, as in Egypt, the conservatism of the priests preserved throughout the ages the medical knowledge of an immemorable past."

The last part of his statement but reveals the extent to which modern physicians go in their endeavor to provide medicine with an ancient heritage. Libby must have been well aware that there was no "medical knowledge of an immemorable past" to be preserved and that medicine had no primitive stage from which to emerge. There was no medical science of the Babylonians. There were priestly rituals and ceremonials, there may have been massage, perhaps they, like other ancient peoples, employed diet and the regulation of the way of life; they did practice surgery. Babylon did have surgeons and Babylonian laws regulated their practices. It seems also that venesection was practiced in Babylon. Medical "historians" make frequent references to "Babylonian physicians," when they are really referring to the Babylonian priestcraft. As Herodotus assures them, there were no physicians in Babylon.

In her *Men of Medicine*, in which she pretends to recount briefly "five thousand years of the healing art," Katherine B. Shippen refers indiscriminately to physician, priest-physician and magician as physicians. She has her physicians working out from the temples and communicating with the gods. She says that the "priest-physician brought with him no medicine and no instruments ... but would treat his patients with spells and incantations." When called to see the sick he would try to find out if the patient had "neglected or insulted one of the gods." He would attempt to discover how the patient had offended the god and thus been made sick. He would also try to discover if the patient was sick "through the curse or spell of some enemy." If the patient could give him no information about these things, the physician "did not know which spirit to exorcise." She adds that "both doctor and patient knew that the evil spirits that plagued men were of many kinds. Some...were demons that hid in dark corners or in rocky caverns. They went slinking through the streets at night and sometimes hid in people's bed chambers ..."

She says that sometimes the demon that caused the sickness was so dreadful "that even the most clever priest could do nothing." If the patient recovered the physician was responsible; his death was not due to the failure of the priest. Her "first physicians" lived five thousand years ago in ancient Sumer. When by ordinary incantatory means these physicians could not cast out a devil, they would appeal to Ea, an ancient god worshipped by the Sumerians, in this way:

O Ea, King of the Deep, see,
I am the magician, I am the slave,
March thou on my right hand,
Assist (me) on my left.
Add thy spell to my mind;
Vouchsafe to me pure words;
Make fortunate the utterance of my mouth;
Ordain that my decisions may be happy.
Let me be blessed wher'er I tread,
Let the man whom I touch be blessed.

After having secured the aid of Ea, the priest turned to his patient with the following soothing charm:

He that stillest all to rest, that pacifiest all,
By whose incantations everything is at peace,
He is the great Lord Ea,
By whose incantations everything is at peace.
When I draw nigh to the sick man
All shall be assuaged . . .
When I draw nigh unto the sick man
May Ea, king of the deep, safeguard me.

She says that "while the priest recited these incantations he offered honey, dates, butter and garlic to bribe the evil spirit so that he would leave the sick man's body. The offerings were later burned." If, after all this, the patient did not grow better, the family did not lose hope, "for the priest had still other resources." First, "he made the patient swallow some nauseating concoction." If this mixture "was sufficiently unpleasant, the evil spirit would go away. Then he made a fire and fanned the acrid smoke across the bed. When these measures also failed, he molded a little doll of wax and tried to persuade the demon to enter it." After this "he began a new chant, rubbing the patient with butter as vigorously as he could," while he chanted:

Butter brought from the clean stall,
Milk brought from a clean fold,
Over the shining butter brought from a clean stall,
Recite an incantation.
May the man, the son of his god, be cleansed,
May the man, like butter, be clean,
Like that butter cleansed,
Like refined silver shine,
Like burnished copper glitter!

She tells us that "when the patient had at last been cured by such ministrations as these, the priest-physician returned to the temple." Although anybody but a medical "historian" would know that such incantations and magical processes did not cure the patients, it is noteworthy that they did recover. But then, as now, some died. "Sometimes," she says, "despite all the spells and incantations the priest-physician could recite, they were unable to cope with the demons, and the patient died."

These Sumerian priests determined the evils that were about to befall a man, the disease with which he suffered (diagnosis) and the probable outcome (prognosis) either by consulting the stars or by examining the liver of a sheep. They were augurs who equaled those of Rome at a later date. It is amazing that medical historians continue to include such rubbish in their "histories" of medicine.

Miss Shippen briefly recounts the passage of time, during which the walls of Sumer crumble and the Babylonians take over, to be in turn conquered by the Assyrians, and says: "While all these things were happening, the ancient incantations which the Sumerian priests had recited continued to be used, but the names of the new gods were inserted." Finally records of these practices were collected into the Library of Ashurbanipal. On tablets of sunbaked brick were recorded "the medicines and treatment they prescribed." She says: "They record prayers and incantations to be read to the sick, lists of herbs and chemicals to be used in treating them, advice on the best way of ending the 'fever-sickness,' headache, nausea, toothache, and other ailments." That they record prayers and incantations is true and that there were herbal and other substances employed in the incantations is also true, but that they were used as medicines by a people who thought that sickness is healed by the gods is arrant nonsense.

Without supplying evidence of the truth of her statement, Miss Shippen says that in the library established by Ashurbanipal, on tablets of sun-baked bricks were recorded "the medicines and treatments they prescribed." That they recorded prayers and incantations, as she says, is true, but where is the evidence that they also recorded "sick-lists of herbs and chemicals to be used in treating" disease, and "advice on the best ways of curing the 'fever sickness,' headache, nausea, toothache, and other ailments?"

As a "historian" of medicine, she follows the usual pattern and tells us that: "Here, then, in the Tigris-Euphrates Valley more than five thousand years ago, were the beginnings of what has grown into the great profession of medicine, the first attempts to help those who were suffering from sickness, the first recording of methods and prescriptions, the first medical library. While not far off, in the Valley of the Nile, another people were trying in their own way to cure the sick and make the injured well." To what lengths do medical historians go in their vain effort to provide for medicine an ancient pedigree that it does not possess!

From Sumer and Babylon Miss Shippen goes to Egypt where she recounts, with the usual departures from the truth, the story of Imhotep. She calls this ancient Egyptian magician, who later was to become a demi-god and have many temples erected in his honor, a physician. He was widely known, she says, as a healer, but "no record of his medical work exists." This is simply explained, for he was not a

medical man. "Down through a thousand years after those first physicians worked," she tells us, "we have no trace of medical practice in Egypt." This should not be difficult to explain, if the "historian" will but consent to try to accept facts and cease trying to erect a medical practice out of every magic rite and incantatory ceremony of which she can find a trace.

At a later date dried herbs were left in some jars in a tomb, and the archeologists have "discovered" that they were drugs. We are told that "they were carefully packed in a straw basket ready to be used in case of illness or accident." She says "the little straw basket with the records of Sekhetanach who could 'heal the king's nostrils,' and of Imhotep, who had the title 'he who comes in peace'—these were small shreds of evidence that the Egyptians practiced medicine." That's small evidence, especially when we know that there were no physicians and that there was no knowledge of medicine. Later they unearthed a few scrolls that are said to have dealt with medical subjects. These were filled with incantations or spells along with herbal concoctions that were parts of the incantations and ceremonies. She persists in referring to Egyptian physicians at a time when there were no physicians, but she also calls them exorcists. If only she would make up her mind which they were!

Some of the concoctions, she assures us, were "unpleasant." They were composed of such things as "swine's ears and teeth, lizard's blood, putrid meat and fat, and the brains of a tortoise," and "herbs and minerals that are still in use today." This was a pharmacopeia designed to exorcise demons, not drugs to heal disease. She says that "through the centuries the medical profession in Egypt grew in power and effectiveness." This kind of loose talk fills what are called medical histories. Everyone of these "historians" knows well that he is writing of the priest-craft and of the priestly rites and ceremonials and not of physicians and their cures. If the reader will learn to substitute priest for physician when he reads these "histories," he will not so often be misled. She says that "perhaps the practice of mummification helped these first practitioners to become familiar with the anatomy of the human body," yet she is well aware that the mummification was carried on by the priests in the temples.

Then she comes to Greece, where we again meet with Asklepios whom she introduces to us as "a gentle physician," who had been "taught many secrets of healing and medicine" by Chiron. She distorts the practices of the temples, omitting all mention of the most important features of temple care. She does have them presided over by "white-robed priests," and she has patients "healed" in these temples. But temple care, the chief care that the Greeks received for centuries, is glossed over by a few passing references to temple sleep and dream interpretation. She damns the very early care of the sick in

Greece as much by what she omits to tell us as by the few unimportant matters that she does discuss. Perhaps this is done because she desires to hasten on to Hippocrates, of whom she presents the usual old myths, plus a few more recent ones.

Thus are ancient magic and religious practices transformed by the magic of the historian's wand into medicine. Thus are the records of the doings of the priestcraft, a record of their ceremonies, incantations and charms, elevated into a medical library. Thus, also, are the newly developed rites of the priesthood, when substituted for the primitive and normal ways of caring for the sick, declared to be the "first" attempts to aid the sick. It is by unconscious falsehoods of this kind that the historians draw up an ancient pedigree for a profession that came into existence at a much later period. And thus it is that a medical "history" is faked.

Helping the historians to fake a medical "history," the archeologists follow the same pattern in describing what they dig up in the remains of past civilizations. An archeologist tells us that most of the documents making up the collection of Sumerian, Akkadian, Babylonian and Assyrian texts discovered beneath the dusty plains of Mesopotamia deal with astrology, medicine and religion. But, as there was no medicine to deal with, they inform us that "the professional magician had many skills. He could drive out evil spirits from the body of the sufferer; ward off, with ritual formulæ, the afflictions which rob a man's body of life . . . It was he who hung about the necks of the sick the perforated *pazuzu* heads, the customary precaution." All I need add is that the professional magician was a priest and that his magic was an integral part of the religious duties of the priesthood.

Robinson tries hard to find a pre-Hippocratic school of physicians. He says that "Aesculapius learned the art of medicine so well that he was accused by Pluto of depopulating Hades," thus seeking to convert the magician into a physician. His determination to find a medical profession in remote antiquity biases all of his history. Democedes of Croton, who lived in the sixth century B.C., and forms the subject of one of the fables of Herodotus, is his first recorded physician. Actually, so far as the story goes, Democedes was a bone-setter and a magician. Robinson reads more into the fable than Herodotus tells, while the translator has garnished the tale with physicians at a time when there were no physicians. This indiscriminate mashing up of good and evil into a patent treacle serves to sow confusion in the minds of the people.

Another example of the efforts of the historians to create a medical profession out of the broken pottery of ancient myth is the story they delight to tell of Podalirius, one of the sons of Asklepios. Upon his departure from Troy, Podalirius was blown by a wind upon the coast of Scyros, where he was taken before king Doematus. "At the

court of that prince he soon gave proofs of his medical skill by curing Syrna, his daughter, of the effects of a fall from a roof. He bled her in both arms, when her life was dispaired of, and succeeded in restoring her to health." This is said to be the first instance of blood-letting recorded in history, but we may be sure that it had no effect in restoring the wounded girl to health. The story probably got mixed up with Podalirius after the blood-letting practice came into being. Strangely enough, men who repeat this story would not resort to bleeding, but to transfusing.

Some medical historians have attempted to transmute the cheese, onions and wine supplied to wounded men at Troy and subsequent thereto into medicines. Others, more critical, have thought of them less as remedies than as "refreshments, necessary in consequence of fatigue." This is but one of many examples of the lengths to which historians go in their effort to create a history of medicine, at a time when they are well aware that no medicine existed.

The following statement of Homer is offered by some historians as an example of the medical practices of the Achaeans: "Terribly did the deadly stench of the brine-bred seals distress us; but she devised a great boon; she brought and placed ambrosia of a very sweet fragrance beneath each man's nose, and destroyed the stench of the beast." If a woman, instead of cleaning her house, should sprinkle it with perfume to camouflage the stench of its uncleanness and thus make it more tolerable for the occupants, would we think of this as the practice of medicine? A profession must be hard put for antecedents when it falls back upon the act of hiding the stench of rotting flesh by the use of sweet fragrance, as an example of the early practice of its arts. The sweet fragrance of ambrosia put under the nose of a man to camouflage the foul odor of decaying seals is medicine! True, there is a sense in which this resembles the practice of medicine; instead of removing the cause of the stench, the odor was suppressed and the cause left untouched.

Some medical historians list the pre-Hippocratic gymnasts and physical culturists among the medical practitioners who preceded Hippocrates. The Olympiads are supposed to extend as far back as the sixteenth century B.C. The Greeks in the palestræ or gymnasia spent much time in exercise. The directors of the palestræ and gymnasia had their methods of caring for injuries, which were probably chiefly massage, but this hardly made them into physicians. It is probable that Hippocrates appropriated these measures when he "created" medicine.

Today we do not class a gymnast or a physical director as a physician. We do not think of the physical director as engaged in the practice of medicine. The football coach and the dancing master are neither one classed as physicians. Why shall we permit the medical historians to class the pre-Hippocratic physical culturists and

gymnasts as physicians in their effort to create for medicine a background that it does not possess? The Greeks also slept; why not class as physicians the keepers of sleeping quarters where weary travelers might spend the night? Also, in modern times, why are not the keepers of flop houses classed as physicians? Are we justified in crediting the Greeks with having practiced a form of therapy known as morphotherapy? As they also breathed air, can we not also credit them with having practiced aerotherapy?

Another classical example of the manner in which medical historians discover physicians and medical practices in the most out-of-the-way places is supplied to us by Diodorus, the Sicilian, who tells us that Medea knew all the drugs and their properties as well as their "particular powers." He says that Medea treated Hercules for chronic mania and finally restored him to mental health, in spite of the fact that his suffering was a curse cast upon him by the immortals because he killed his kinsmen, the Centaurs. A modern medical writer describes Medea as the first woman pharmacist and toxicologist. How large can they grow with the passage of time! Medea was a merciless and dreadful killer. We may look upon her as a toxicologist, but her title of pharmacist seems a bit exaggerated.

In their zeal to provide medicine with an ancient background, and unmindful of the meaning of the term medicine (healing), medical historians make a futile effort to create a class of physicians out of the pre-Hippocratic philosophers (Iatro-philosophers). Including these men in the catalogue of leeches is somewhat like classing as medicines the many practices of peoples which had no relation to healing. It is true that the philosophers were saturated with the magic of the times, the best of them merely adding their philosophic speculations to their magic practices, but this hardly turns them into physicians. Most of them were adept at performing their tricks, but called upon the gods to heal them when they were ill.

The absurd vagaries and wild guesses of these philosophers constitute rather sandy foundations upon which to build anything worthwhile. That occasionally one of their shots in the dark struck a source of light is not surprising, as collectively, they speculated about everything the human mind is capable of thinking, and brought forth, from out of the storehouse of their imaginations, almost all possible views of things. But they never knew whether they had hit upon a truth or were merely spouting words. The philosophers of Greece traveled extensively in Egypt and the Orient, studying magic. They absorbed a small amount of real knowledge and became men of renown for their "discoveries" in mathematics, music and other fields of science and art, but it is difficult to escape the conclusion they were conscious frauds.

Some of the historians suggest that Pythagoras was the first to introduce Egyptian medicine into Greece, and that, by means of his

school at Crotona, he introduced the same system of medicine among the Romans. The story seems to have been current in ancient Greece (perhaps a myth that arose after his death) that Pythagoras was a direct descendent of Asklepios, although he was not connected with any of the temples of this god. The Pythagorean society of Crotona was somewhat like a monastery, but there is no record that it cared for the sick.

Many myths have grown up around the name of Pythagoras and medical historians have labored hard and diligently to make a physician of him. He is a real historical figure who is more legendary than historical. Altogether too much of what is attributed to Pythagoras is the work of subsequent men who sought to gain authority for their theories and practices by crediting them to the ancient sage. It was the Egyptian custom to refer knowledge of any kind to a date as early as possible, if it could not be stated that it was of divine origin. A similar practice obtained among the Greeks, except that they preferred to refer knowledge back to some important personage of the past. Legend increased the stature of the Greek heroes until in the esteem of those who came along after them, they were super men. They even became supernatural and offerings were brought to their tombs. They became gods and were thought of as immortal. Pythagoras was a real personality, who really lived, but, owing to the practice of adorning "great" men with legendary characteristics until their historical physiognomy is effaced, we do not even know what kind of a man he really was.

Although there is a legend that Pythagoras knew several magical plants, there is no evidence that he ever practiced medicine. Diogenes Laertus is quoted as saying that the special study of Pythagoras was medicine. It is doubtful that Diogenes ever made such a statement; certain it is that Pythagoras could not have made a special study of something that did not exist. It would have been impossible for Pythagoras to have been a physician for the simple reason that no physicians and no practice of medicine then existed. On the other hand, Diogenes who lived long after the time of Pythagoras, is not a very good witness. He tells us that Empedocles lived without breathing for thirty days. He advanced most of the tenants of Darwinism. It is a sad commentary upon modern science that it has proved to be unable to get much beyond the vagaries of this charlatan.

According to the information we have, after a prolonged stay in Egypt, where he remained near the priests, Pythagoras visited Arabia, Syria, Persia, Babylon, Phoenicia, India, Gaul and other countries. He was deeply influenced by Egyptian and Oriental thought, as well as by the religious ideas of the Orphic sect in Hellas, which he followed closely. The study of what historians persist in calling medicine, but which was really magic, was a part of the *Natural*

Philosophy of the time, so that there may be some reason to think that Pythagoras studied the "healing science" of the Egyptians and the other peoples among whom he traveled, but the records do not show that he ever practiced the healing art. Among the followers of Pythagoras, none of them down to the time of Hippocrates, made a name for himself as a healer. If we except Democrates and Heraclitus from this sweeping generalization, they are famous for the ingenuity of their hypotheses and not for any additions to medical knowledge.

Pythagoras worked out a plan of living that can hardly be called a system of medicine. His rules of living, which appear to have been based largely upon the practices of the Orphic sect, pertain to diet, exercise, bathing, emotional control, sexual moderation and other hygienic measures that were well known to the Greeks. He is said to have believed that disease is the result of improper living and eating. His plan of care for the sick was made up of bathing, diet, strict observance of psychical and physical exercises, gymnastics of all kinds and prayers. Various foods that were thought to be "unclean" were forbidden. Coition was regarded by him as a cause of emaciation and he advised continence and strict celibacy. He also forbade excesses in food and work, opposed violent passions, and was an advocate of harmony, patience and silence. He forbade all liquor and thought that natural living was the best health preservative and disease preventive. There is certainly nothing in all this that even remotely resembles the practice of medicine in any age of medical history. It is a way of life that he offered the Greeks and Italians.

If we can accept the possibility that Pythagoras studied magic in Egypt and, perhaps, also, in Babylon and Phoenicia, we cannot, on the evidence of the meager records that we possess, accept the myth that he taught and practiced medicine. Much, even, of his rules of living were founded on an unrealistic basis. When he stated that in the barking of a dog he recognized the soul of a friend living in the animal, he but gave expression to his idea of transmigration of souls. According to Herodotus, the Egyptians were the first to teach that when the body is destroyed, the soul enters another body, passing successively from one animal to another, occupying first the bodies of land animals, then those of the sea, and then those of birds, after which, it again enters the human state. This full cycle of trans-migratory steps is accomplished once every three thousand years. Pythagoras, who long studied under the Egyptian priesthood, probably absorbed the doctrine from this source, although there may have been the beginnings of it in the ideas of the Orphic sect.

Not alone in Pythagoras, but in the writings of many philosophers and poets and others who came after him, even down to the present, one finds this same idea running through their vegetarian ideas. They object to the killing of animals for food because the animal

is inhabited by a soul. They call the killing of the animal murder. At best, it is a very unrealistic foundation for a way of eating or for any ethical consideration that may properly belong to man's eating habits. Perhaps, due to this belief in the transmigration of souls, Pythagoras was more rigid in his dietary prescriptions than any of his predecessors and contemporaries.

THE FATHER OF PHYSIC

Chapter 19

"The beginning," said Plato, "is the most important part of the work." I have already shown that the beginnings of medicine are vague and shadowy. It remains now to show that the alleged "father" of the system of drugging is equally a shadowy figure. Of this legendary figure Miss Shippen says: "Hippocrates, the great physician of Cos, though he lived in the fourth century B.C., is still remembered as perhaps the greatest physician in history." He can hardly be said to belong to history; he is almost wholly a legend. Robinson says that "aside from the inconsequential references to him by Plato, Hippocrates is not mentioned by any of his great contemporaries, and he had no Plutarch. His earliest biographers lived centuries after his time, and their accounts are trivial and mythical." He adds: "From the cradle to the grave the life of the father of medicine is invested with legends; we know nothing about Hippocrates except that he was the greatest of physicians." How can it be known that a man was the "greatest of physicians," when they do not even know he ever lived?

In his introduction to *The Genuine Works of Hippocrates* (The Williams and Wilkins Co., Baltimore, 1939), as translated by surgeon Francis Adams, LL.D., Emerson Crosby Kelly, M.D., says that "Even two hundred years after his death, no one knew anything definite about Hippocrates' life. Stories were invented ..." He adds that "When the Greeks who established the Alexandrian Library sought to gather all the knowledge of the ancients into one place, they found several writings of Hippocrates who had been dead about two hundred years. The scholars knew that the medical information contained in these writings was unusual in its direct personal study of disease. Here were word pictures of sick men, careful descriptions of their appearances and a complete story of the onset, course and outcome of their diseases. This was progress away from the fatalistic attitude which gave a sacred or demoniacal cause of man's ill health. All medical writings which bore this stamp were classified under the name of Hippocrates; whether he ever wrote a single line of them, we probably shall never know. Nor does it matter."

But it does matter. If others than Hippocrates authored some of these writings, and this seems certain, it means that others than Hippocrates were thinking along non-priestly lines. Instead of Hippocrates being the "Father of Medicine," he could have been a student of its real father.

The editors of the *Great Books* correctly state that "our knowledge of the historical Hippocrates is almost completely

dependent upon Plato. From the *Protagoras* and the *Phaedrus* we learn that Hippocrates was a contemporary of Socrates, that he was a native of Cos, and an Aesclepiad, a member, that is, of a family or guild that traced its origin to the God of Healing. He was well known both as a practitioner and teacher of medicine... There is also the implication in Plato's words that Hippocrates traveled from city to city and that, like the great sophists and rhetoricians, he came to Athens to practice and teach his art."

That is all the "history" that we have of Hippocrates, the implications being rather vague and the reality of the man as a man rather than as a fictional character, being rather hazy. The editors add: "The figure of the legendary Father of Medicine soon replaced the historical Hippocrates. Although there is no evidence from his own time that he left any writings, within a century medical works were being attributed to him, especially those emanating from the famous medical school at Cos. The writings which now go by the name of the Hippocratic collection consist for the most part of the early Greek treatises which were brought together by the Alexandrian scholars of the third century. The collection is large and heterogeneous and although all were attributed to Hippocrates, the genuineness of some of them was questioned even in antiquity."

This reveals the manner in which a myth is slowly built up. Hippocrates, as a character in Plato, is employed by the scholars of the Alexandrian library to serve as the author of a mass of manuscripts, although it is not known that he had penned a single line of one of them. The editors have made of these works emanating from the "famous medical school of Cos," a school that is as fictional as Hippocrates. There was never a medical school, famous or infamous at Cos. The editors of the *Great Books* are well aware that the Asklepiad was a priest in the temple and that the alleged school at Cos, was the famous Asklepiian temple at this place. They also are well aware that no medicine was practiced there.

The Asklepiian temple at Cos was a religious, not a medical institution. It was dedicated to the principle that it is god that heals our diseases. Instead of drugs, it employed hygienic measures in addition to prayers and incantations. It was not a medical school educating men in the practices of medicine and sending them out into the world to prey upon the sick. According to their own source (Plato), Hippocrates was an Asklepiad, which means that he was a priest. At Cos, if he was there, he must have exercised his priestly offices. In the writings attributed to him, although there is much nonsense, there is much good hygiene, which would indicate that, whoever were their authors, they were influenced by the practices of the temples.

Why do medical "historians" persist in proclaiming this more or less fictional creation as the *Father of Medicine*? The answer is

simple. Science is said to have had its birth, not on the mainland of Greece, but in her colonies in Asia Minor. It was in the region of Hellas near Cos that Thales successfully predicted an eclipse about the year 585 B.C. Greek thinkers at once grasped the idea that natural phenomena do not occur by chance or as a result of divine whim, but according to fixed laws. In seeking for a father of the poisoning practice, they need a locale that breathes the "spirit of modern science" and they tell us that the temple at Cos "worked more in the spirit of modern times." What more logical than to have the *Father of Physic* come into being in the region near where Thales made his successful predictions! Rhodes is close by Cos, so that it is not at all surprising that two different stories of the place where Hippocrates taught are provided us. Cos or Rhodes, the modern medical historians will be equally satisfied with either place.

The temple at Crotona in Magna Græcia, and the one at Cnidos, a promontory on the coast of Caria, were rivals of the one at Cos, but were not "modern" in spirit. The assertion that the temple at Cos "worked more in the spirit of modern times" is not history. Indeed, it is nothing more than an effort to put a shiny face on the ugly medical infant that was accouched at the time. In keeping with the new idea that natural phenomena are controlled by fixed laws, Hippocrates is credited with having rejected the older notions that disease is due to divine wrath or to demoniac possession and could be remedied by magic and prayer. Who first rejected these older notions is totally unknown and, as Hippocrates is more or less a legendary figure, whom Galen declared to have been divine, to whom the works of many different authors are attributed, we do not know how far away he got from the older notions, if he lived at all.

There was a Hippocrates of Chios, who is said to have first developed geometry and who taught at Athens from about 450 to 430 B.C., but he was probably not the Hippocrates whom Plato mentions, hence should not be confused with the Hippocrates of Cos, the traditional Father of Medicine. We need not discount the possibility, however, that this man may have been the inspiration for the character invented by Plato.

Formerly known as the Father of Physic, Hippocrates is generally credited, as we have just seen, with having first broken with the charms and amulets and with the prayers to the many deities and to have established medicine upon a rational basis. If it is assumed that pouring poisons down the protesting throats of the sick is more rational than hanging amulets around their necks, I assume that Hippocratic medicine is rational. To show the completeness of the break he and his disciples made with the school of magic, they seem to have abandoned the use of the caduceus, but the profession was not slow in re-adopting the ancient symbol which it has retained to this day.

Hippocrates is supposed to have been born about the year 460 B.C., in Cos, where he served as a priest in the famous temple located there, although there is a tradition, accepted by some medical historians that he taught at Rhodes. He seems to have made no impression upon his contemporaries and there is no mention of him in the records of that time. Galen seems to have been the first to call attention to the merits of the Father of Medicine, although he was born in 130 A.D., and had access to no records of the doings of Hippocrates.

The Hippocratic myth was centuries in the making. As manuscripts from the past, almost all of them anonymous, were assembled at the great Alexandrian library, readers thought they detected "Hippocratic doctrines" in many of the anonymous manuscripts dating from the fourth and fifth centuries B.C. By the close of the third century B.C. a collection of writings on medicine of unknown origin came to be known as the Hippocratic writings. Even in those days there were students of the scripts who disputed their authenticity, but with the passage of time, readers grew less critical and the body of "Hippocratic writings" continued to increase, until it came to include almost all the anonymous medical writings of the classical age of Greece.

These writings constitute a collection of heterogeneous works—monographs, manuals, textbooks, speeches, extracts, notes—dealing with many problems of medicine. But they are not homogeneous and are often contradictory. Sigerist says in his book, *The Great Doctors*, that they "perhaps do not contain a single line penned by Hippocrates." He thinks that they are valuable because they "give us a clear notion of Hellenic medicine during the fifth and at the beginning of the fourth century," B.C. He says that the close study of these manuscripts "shows that they lack uniformity. The most contradictory views are expounded. Some of the utterances are expressly directed against others. It is impossible, therefore, to suppose that the 'Hippocratic writings' were the works of one author."

"Which, among the various writers," asks Sigerist, "was the true Hippocrates? Which of the scripts are genuine? We do not know. We have no data enabling us to decide." It is obvious that the scholars who collected the writings in the great Alexandrian library had no data to enable them to decide, else would they not have collected such a mass of heterogeneous and contradictory material under the one name. To these early Alexandrians, Hippocrates "ranked only with two other physicians, Praxagoras and Chrysippus, as one of the three leading authorities upon dietetics." As he was but one of several writers of the time, he could not have been the Father of Physic.

Sigerist says that: "From century to century, however, his fame grew. For the later Alexandrians he was the physician most

worthy of remembrance, the first medical author, the doctor who reigned supreme over the whole domain of medicine." Thus was the myth built up. His contemporaries and immediate successors knew nothing about him, but, as his synthetic fame grew, a demand for a biography came into being. Sigerist says that "Legends arose, such as that recorded in the second century after Christ by Soranus of Ephesus, and others penned by subsequent authors. According to these tales, he was the son of a doctor named Heraclides. His mother's name was Phenarete. He was born in 460. His first teacher had been his father, then he studied under Herodicus, Gorgias the Sophist and Democrates the philosopher." All of these tales arose centuries after he is supposed to have lived and were put into biographies written by men who had no access to any possible sources of information. The myth grew and grew, as myths have a tendency to do; but still no one knew that there was ever a Hippocrates. As Sigerist says: "In actual fact we know nothing whatever about his life... Since the ancients knew nothing about the life of Hippocrates, we can readily understand why no authentic statues have come down to us. There are coins extant, minted at Cos, professing to show the physiognomy of Hippocrates, but since they date from the days of the Roman empire, it is unlikely they were based on portraits."

A great mass of writings that were grouped together as Hippocratic, obviously not all written by one man, but all bearing certain distinguishing characteristics, (their cleavage from the demoniac and theologic etiology) may have given rise to the idea that Hippocrates was the name of a "school of healing," rather than that of a man. I incline to the thought that, even though such a school may have existed, and evidence for its existence is somewhat vague, Hippocrates was a man and not a school. But the man Hippocrates and the myth Hippocrates are vastly different beings. The idea that the Father of Physic studied physic under famous teachers of the art and that his father was a physician ahead of him, puts him somewhat in the class of theology. He is the second person in the trinity.

Any account of the life of Hippocrates must be based largely upon conjecture and upon conclusions derived from the reading of works, the very authors of which are unknown. The complete absence of contemporary biographical material about the Father of Physic and the absence of all commentaries on his work may be ascribed to the fact that his literary and scientific attainments, as well as his professional achievements, were not regarded as of sufficient importance by his contemporaries to merit attention. For, the man as we know him, is the creation of subsequent ages. Whatever may have been the factual details of the life of the man, we have none of them.

Robinson says "When we come to the writings of Hippocrates our knowledge is equally dubious. The recent suggestion that the

Hippocratic collection represents the remains of the medical library of Cos is gaining acceptance." This acceptance is based on wishful thinking. There was no medical school at Cos. There was no medical library there. If the temple had a library, it may have contained writings on a variety of subjects—diet, bathing, the weather, climate, etc., but they were not on medicine. Robinson adds: "Whichever view is taken—'According to Hippocrates,' or 'Hippocrates wrote,' or 'Hippocrates observed,' only means a contributor to the *Corpus Hippocraticum*." To put this more simply: it is not known who wrote these many books and we quote Hippocrates only as a matter of custom or form and not as matter of fact.

As many legends have grown up about Hippocrates as grew up at an earlier date about Dyonisus and Asklepios. Hero worshippers, lacking any authentic information about his life, have supplied us with details from out of the abundantly stocked storehouse of their imaginations. Medical historians continue to repeat these fabrications as though they constitute genuine biography. For example they continue to repeat the legend that Hippocrates "drove the plague from Athens by lighting fires in public places." This practice was old when Hippocrates was born and probably grew out of magic. As the "plague" was not an entity that could be driven out, this statement is ridiculous. Of this use of fire to stop the plague of Athens, we have the testimony of Thucydides that the physicians accomplished nothing.

Fire might be looked upon as a purifier, but only in as far as it actually burns filth. If, originally, it was employed to scare away evil spirits, Hippocrates may have employed it to drive away something else. He had no knowledge of germs and could not have employed it as a germ killer. If public bonfires will end epidemics, they constitute a cheap and convenient means of ending mass sickness. The practice should be revived. In fact, each city and hamlet should provide special fire-parks for the purpose of driving out disease by heating the air.

It is not known who wrote the *Aphorisms* that are accredited to Hippocrates, but it is asserted that these "could not have grown up in the minds of his contemporaries, who were ignorant of healing except by incantation, amulets and the casting of spells." But as the Hippocratic Collection is the work of several authors, this statement is empty. There is as much reason to think that others could have broken with the older ideas and practices as there is to believe that Hippocrates could have done so. If the intellectual climate of the period was conducive to such a break, it is not likely that but one man in all Hellas made the break, while all others remained wedded to the past. Such a supposition is without parallel in history. If Hippocrates could break with his environment, others could have done the same.

It is thought that Hippocrates may have studied the writings of Pythagoras, as there is some similarity between them. If he did not

read the works of the philosopher, the fact that there are similarities between them reveal that the alleged break with contemporary Greek temple practices was not the revolutionary move it is often pictured. Some medical authors suggest that the works of Hippocrates are, in large measure, composed of the votive tablets preserved in the temples. Others believe that the Hippocratic principles and practices grew out of some of the various Greek philosophers, others that this was impossible. Some contend that Hippocratic medicine was of Egyptian origin—Egyptian medicine seems to have been introduced into Greece several times.

It is probably true that the Hippocratic writings are not originals, but are mere compilations of current theories and practices. Certainly they contain accounts of modes of caring for the sick that had long been in vogue, as well as accounts of the beginnings of the drug system. By the manner in which these writings speak of bleeding, the administration of emetics, purgatives and other medical agents, it is inferred that they were in common use and had probably been in use for a long period to his era. Unlike the ceremonial employment of herbs, as practiced in the temples, the Hippocratic writings contain information about the application of remedies for the removal of particular symptoms and for their internal administration.

It is asserted by some medical "historians" that the famed *Hippocratic Oath* is but a resume of ethical admonitions formulated by Egyptian priests of Thebes centuries before the Christian era—Egyptologists estimate their date at sixteen centuries B.C. Several variations of the Oath are extant. All of them are thought to have originated long after the death of Hippocrates. This Oath contains a pledge, undoubtedly coming from the temples, not to teach medicine to any save the members of one's own family or to other members of the order.

It is customary to translate the names Hygeiea and Panacea in this Oath by the words Health and All-Heal, apparently in an effort to hide the fact that, in taking the oath, the leech swore by two goddesses in addition to two gods. They still give the names of Apollo and Asklepios as they are in the Greek and do not attempt a translation of them, but their dishonesty is apparent. In the new edition of *The Great Books*, upon which hundreds of eminent scholars spent so much time, the fake translations of Hygeiea and Panacea are retained, thus indicating that the men who are so deeply interested in "education" are mere propagandists and that those who talk so glibly about high ethical standards do not live by such standards.

Prior to the time of Hippocrates the sufferings of mankind were attributed largely to angry deities, demons and to the stars. Hippocrates is credited with having been the first to break with these ideas of causation and to search for a rational explanation of cause.

While he does not seem to have completely divorced himself from astrology, he does seem to have discarded the gods and evil spirits as causes, although long after his death great numbers of physicians continued to hold these causes to be of great importance.

In the Hippocratic book, *On the Epidemics*, are these words: "In Thasus, a little before and during the season of Arcturus, there were frequent and great rains, with northerly winds. About the equinox, and till the setting of the Pleiades, there were a few southerly rains: the winds northerly and parched, cold, with great winds and snow. Great storms about the Equinox, the spring northerly, dryness, rains few and cold. About the summer solstice, scanty rains, and great cold until near the season of the Dog-star. After the Dog-days, until the season of Arcturus, the summer hot, great droughts, not in intervals, but continued and severe, no rain; the Etesian winds blew; about the season of Arcturus southerly rains until the equinox."

In this state of things, he points out, many people developed paraplegia, some dying speedily, but the disease prevailed in epidemic numbers, the people, in the meantime, remaining free of "other diseases." With the arrival of spring "ardent fevers" developed and continued through the summer until equinox. Here he seems to attach some causal relationship to the metro-climatic states previously ascribed to astrological influences. It does not seem to me to be fully clear whether we are to think of astrological influences as causes or of the meteorological states and climatic conditions described as cause or all of them combined. In either case, the meteorological states and the climatic conditions described seem to be the normal course of nature through the seasons, while the astrological features are but the regular cycles through which the heavenly bodies are seen to travel.

There does not seem to be much to be gained by casting off the gods and demons as etiologic factors and adopting climatic, meteorological and astrologic influences as causes. This does not represent great progress. About all that can be said of it is that it represents a change, a shift of emphasis; growing, not so much out of any progress the leeches may be assumed to have made, as out of the growing doubts of the people concerning the gods and demons. Out of these same doubts, perhaps somewhat intensified, there grew up a little later, the belief that diseases are caused by minute (invisible) animals (animalcules), a belief that eventually matured into modern bacteriology. The minute animals were substituted for the evil spirits.

In the so-called Hippocratic writings are to be found the following: "Certain wise physicians, even among the ancients, were aware how beneficial to the blood it is to make slight frictions with the hands over the body. It is believed by many experienced doctors that the heat which oozes out of the hand, on being applied to the sick, is highly salutary and sauing. The remedy has been found to be

applicable to sudden as well as to habitual pains, and various species of debility, being both renovating and strengthening in its effects. It has often appeared, while I have been thus soothing my patients, as if there were a singular property in my hands to pull and draw away from the affected parts, aches and divers impurities, by laying my hand upon the place, and by extending my fingers towards it. Thus it is known to some of the learned, that health is to be implanted in the sick by certain gestures, and by contact, as some diseases may be communicated from one to another."

If it is still thought that Hippocrates abandoned all reliance upon the magic of the priesthood, let us take the statement of Mather that "the Sybil women did with the touch cure each other; and also with conjuring exorcisms did dissolve one another in trances, so that they prophesied, and conversed with their friends deceased." Although in this statement we have an admixture of hypnotism and spiritualism, we also have the "laying on of hands," as the foregoing quotation reveals that Hippocrates practiced. The medical historian must have a difficult time distinguishing between the hocus pocus of Hippocrates and the passes and gestures they denounce as Mesmerism, hypnotism, magnetic healing, etc.

EXTINGUISHING THE LIGHT

Chapter 20

By Hippocratic medicine we shall here mean those practices that are described and advocated in the mass of writings that have been attributed to Hippocrates, without reference to who their actual authors may have been. I have previously stressed the fact that medicine had its origin in days of complete ignorance of anatomy, physiology, pathology and the other sciences that are now regarded as essential to the work of the physician. Even surgeons knew little of anatomy. The crude notions about the body that are expressed in the "Hippocratic writings" seem comical, even to school children today. Hippocrates thought that the arteries were filled with air, hence the name. Galen thought the blood was manufactured in the liver.

Hippocrates thought the earth was composed of four elements—earth, air, water and fire. In keeping with this elemental constitution of the universe, the human body was composed of four humors—blood, phlegm, yellow bile and black bile. Disease was due to a lack or excess of one of these humors—thus giving us the humoral pathology that ruled the minds of medical men for over eighteen hundred years and is still in vogue among certain groups in India. On the basis of this humoral biochemistry, Hippocrates erected his doctrine of the temperaments. According to which of these humors predominate in a man's make-up, he is sanguine or phlegmatic, choleric, or melancholic.

A medical historian recounting this ancient notion of the composition of the body, says that "it is easy to see how these theories bore practically no relation to the facts of physiology, and that medical practices based on them could rarely if ever have had any good effects." I presume that he expects us to discount the stories of cures effected by Hippocrates and his successors, which he and his colleagues are so fond of repeating. From subsequent statements of this same "historian," one learns that poisons do have practical relations to the facts of physiology.

It may be replied that today we have much knowledge of the structures and functions of the body and of the changes that occur in it in disease, so that, today, medicine is well grounded in science. But to this contention we must reply that the drugging system had no foundation in biological science when it was founded and has no more biological sanction now than it had at that time. There is simply no biological nor physiological basis for poisoning the sick. All through the post-Hippocratic period medical men have been busily engaged in putting up walls ahead of foundations. They have erected a mighty

superstructure without a knowledge of the very sciences that are essential to its support. It would be an extremely unlikely accident if the superstructure should prove to be well founded. The obvious fact is that medical scientists have investigated in pedantic detail the exegetic mainstays of hypotheses or theories that they formulated in advance of all data and all proofs and have painstakingly avoided all scrutinies, even though these would entail small effort and no laboratory equipment, if these scrutinies are likely to controvert their inferences.

The humoral biochemistry, the humoral pathology and the humoral classification of human types can hardly be said to have been based on accurate observations and accumulated experiences. The meaning of the rather elastic term science has to be stretched until it is no longer recognizable to include this nonsense under the term. Dr. Tilden's definition of science—Science is truth; if it is not truth, it is not science—hardly contains room for such chimerical speculations as those attributed to Hippocrates. It must be acknowledged that such speculations constitute no valid foundation for a rational practice of mind-body care.

As disease was due to the prevalence of some morbid humor and, when the disease was permitted to run its course without interruption, it ended in the discharge of the humor (crisis), the promotion of the discharge became the important work of the physician. Crisis means judgment and was applied to that point in the evolution of a symptom-complex when the physician could make a judgment. In practice it came to mean the "turning point" in the disease. The Hippocratic practice was largely devoted to the effort to produce artificial crises. Hence, an important part of the physician's work was the employment of evacuants of all kinds. His followers of the last century, when men were presumably more enlightened, explained that "the practitioner is in fact only anticipating the operations of nature, or producing that change which would naturally ensue, were there not some unusual counteracting cause which prevented or repressed it." Thus they made an effort to "aid nature" in doing what she would do anyway, if left to her own resources. This Hippocratic principle has served as the foundation of practically all the schools of so-called healing that have arisen from Hippocrates to the present.

In the Hippocratic writings is first to be found the principle to which Samuel Hahnemann gave the term *allopathy*: namely, that disease is to be cured by inducing a contrary state of the system or a contrary action in the morbid part. Thus repletion is to be relieved by evacuation and the effects of excessive evacuation are to be relieved by inducing repletion; the excess or defect of any of the humors or qualities is to be relieved by the employment of such means as may augment or diminish the contrary humor or quality. Thus the important

part of this practice was the employment of evacuants of various kinds, especially of purgatives, of which he employed a great variety and administered diuretics and sudorifics, drew blood freely with the lancet, the scarificator and the cupping-glass, administered injections and inserted issues. To call these practices rational medicine to distinguish them from the magic of the priest-healers, is to do violence to language. Nothing could be more irrational.

With the coming of such practices medicine was born. Hippocrates may not have been its father; superstition was certainly its mother. The poisoning practice was definitely launched. The best we can say of Hippocrates is that he was a child of his age. If he lived at all, he was no outstanding genius. If he broke with some of the superstitions of his time, he tenaciously clung to others, some of them much worse in their effects upon the patient, than many of those he rejected. The Hippocratic school was primarily a drugging school. Although opium was known at the time, he does not seem to have employed it and there are but thirteen mineral drugs among 265 drugs listed in the writings that have been attributed to him. He drew most of his remedies from the plant kingdom.

In the works attributed to Hippocrates are to be found words giving expression to one of the most fatal fallacies that ever reigned the medical mind. He said: "Extreme remedies are very appropriate for extreme diseases." This fallacy is still adhered to by modern medical men. Nothing can be more deadly than the practices built on the principle that the sicker the patient, the more desperate his condition, the weaker he is, the greater is the need for drastic remedies. In just those conditions in which there is the greatest need for conserving the patient in every way and in which there is the greatest urgency that no hurt be done him, they come in with their most potent remedies. When the patient has least resistance and is most easily killed, they give him the most dangerous treatment.

But there are also words in his writings that, if heeded, could save many lives that are now snuffed out. He wrote: "To do nothing is sometimes a good remedy." To administer no drugs, to protect the patient against all enervating palliatives, to conserve the powers of the patient in every way possible, is to give him, under all conditions, the best opportunity to recover.

Among the statements attributed to Hippocrates is this: "Old people have fewer diseases than the young, but their diseases never leave them." This is the equivalent of saying that old people have chronic disease, young people have acute disease. It is equivalent to saying that the suffering of the young is evanescent, that of the old is continuous. The old are always sick; the young are intermittently sick. As Hippocrates had no valid knowledge of cause and as he understood nothing of the evolution of pathology, he could not have understood

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these phenomena. Indeed, they are not understood by the men of medicine today, for they have no valid conception of cause and have refused to accept the principle of the unity and continuity of pathology.

In the Hippocratic writings it is stressed that "nature heals." The office of the leech is to guide nature's operations. The best means of doing all this was dietetic in the ancient sense. The Hippocratic writings, both the spurious and the genuine, place more stress upon air, water, food, cleanliness, sleep, moderation, a supervision of the way of life and fasting than upon drugs. Unfortunately the fact that "nature" heals was soon forgotten and, under the belief that the leech must "guide nature's operations," drugs came more and more into use as "guides" and the normal needs of the organism came more and more to be neglected. The older priest-craft were content to let nature (the new name for god) do her own guiding in her healing work. They supplied the physiologic needs of the organism plus the flumduddery that today would be classed as psychotherapy.

I must pause here long enough to say that hygiene could be forgotten only in the practice of physicians and in the consciousness of the people. Any valid hygiene must involve, as an absolute necessity, the proper use of the primordial requisites of organic existence, hence it must go back to first principles and primitive practices. The normal life of man is a hygienic way of life; any significant departure from the genuine norms of life is un-hygienic. In the very nature of things, it is impossible for man, under any circumstances of existence, to completely depart from the normal ways of life without producing speedy death.

The idea that nature heals had rough sledding for centuries; it has been alternately accepted and rejected by the medical profession. Bostock, whose "history" was written in 1834, says of the doctrine of the healing power of nature, that it is erroneous. Even though present-day disease-treaters may not all agree with him, they all practice as though Bostock is right. A standard textbook of pathology now in use in American colleges says that "during his age-long struggle for existence, man has developed defense mechanisms which enable him to overcome many agents of injury in his environment." This is, at least, a partial recognition of the self-healing powers of the body and indicates that, at least, some of the present authorities in the field of pathology do not agree with Bostock.

Hippocratic medicine was mild. Robinson confirms this saying: "The keynote of Hippocratism is gentleness; no harsh measures, no drastic drugs, no unnecessary meddlesomeness... The chief remedies were barley, hydromel, oxymel, and wine. The patient was made as comfortable as possible, and even his fussiness was respected." A patient with measles or a severe cold was put to bed, kept warm, given a cathartic and liquid nourishment. Recognizing that

it is "nature" that heals, the Hippocratic school said that the leech should hinder nature as little as possible; should assuage pain, do good, at least no harm, keep the patient warm and comfortable, give nutriment sufficient to maintain strength, but not burden the digestion, and remove any undigested food. It may be doubted that Hippocrates advised nutriment to maintain strength, particularly in view of his advice to physicians to fast the acutely ill patient. This modern medical dogma is probably put into his mouth by historians as a means of magnifying the man. He knew nothing at all about digestion, although he did employ emetics and cathartics to remove food and other materials from the digestive tract.

His purgatives include such substances as castor oil and mineral waters; he employed emetics; barley water and gruel; wine, hydrometer (a mixture of water and honey), oxeye (a mixture of vinegar and honey), and mead (fermented honey); myrrh, asafoetida, dried ox-gall (bile salts), and many other drugs equally mild. While such medication is without value, when it is compared to the drastic drugging of the present-day and of the past three centuries, it seems to be almost a do-nothing practice.

As the employment of honey in treating the sick had long been a practice in the Dionysian temples and, probably, outside the temples, the practice may not justly be regarded as Hippocratic. His employment of honey and water or even honey and vinegar may be taken, however, as indicative not only of the mildness of many of the practices he espoused, but of his failure to make a complete break with the practices of the past and those of his contemporaries. In his use of honey he was merely continuing a practice that was old when he was born. By this, I do not mean for the reader to understand that honey and vinegar have any heading virtues, for they do not, only that they were used with the thought that they possessed such virtues.

Hippocrates seems to have employed the enema; he did not use hot and cold applications, hot and cold baths, inunctions of aromatic oils, massage, cupping and blisters and the cautery. He continued the "water cure" and manual manipulations of the temples. Indeed, his practices were so nearly the same as those of great numbers of Naturopaths that many of them have claimed him as the Father of Naturopathy.

Not all of his practices were mild, however, as is indicated by the following statement found in the Hippocratic writings: "What drugs cannot heal, the knife can heal; what the knife cannot heal, the cautery can heal; what the cautery cannot heal is incurable." This from a man who taught that nature or the *Vis medicatrix naturæ* does the healing. It is obvious from this statement that he regarded drugs, the knife and the cautery as healing agents. Thus, it may be said that he set the pattern so closely followed by the medical men down the ages: that

mummery, confined their attentions to the wealthy is largely if not wholly true. It was also true in the Asklepiian temples in Hellas.

But his reference to "old wives" is characteristic of the snob. The implication is that "old wives," though their experiences reach back as far as that of "old husbands," cannot know much. Only the ignorant can think that the embryonic science of life possessed by the Greeks, which was so mixed with magic, even in the minds of her greatest intellects, that it is difficult to disentangle it, was of much service to the sick. The best of the Hippocratic physicians were charlatans of the deepest dye. Pretending a knowledge they did not possess and proclaiming the virtues of their remedies, they set the pattern that has been followed by the medical profession ever since. Charlatanism characterizes the medical profession today as much as it did in the days of Hippocrates.

GLOWING EMBERS IN THE DARK

Chapter 21

That medicine, as soon as it came into existence, began to seek to usurp the place of hygiene, is a matter of historic record, although the long and bitter struggle between the two systems has been glossed over by historians. Strong opposition to the practices of drugging and bleeding the sick developed immediately after these practices came into existence. So great and persistent has been this opposition that medical historians have found it necessary to cover with a blanket of ignominy all of the opponents of the false practices in order to build up their romantic story of medical triumphs. The careful student of medical history cannot miss the fact that the historians have a strong tendency to belittle those practitioners who refused to resort to bleeding and drugging, but continued to rely upon fasting, diet, rest, exercise, cleanliness and a general regulation of the life of the patient.

Only those practitioners who employed "active agents" (poisons) and who bled freely are considered worthy of their unstinted praise. These often get credit for doing the impossible and no historian questions the authenticity of the reports of their remarkable works. There is, for example, the story of Hippocrates stopping the plague of Athens by building fires in the city. Every medical historian repeats this myth without question, although we have the testimony of Thucydides that the work of the physicians was of no avail. They repeat stories of cures performed by leeches of the past and of the reputations they gained as a consequence of these alleged *cures*. Paracelsus, the Father of Chemotherapy, is an example. He is credited with many remarkable cures.

These historians are well aware that the means by which these medical heroes achieved their cures were valueless, even harmful, and have long since been discarded, but they continue to repeat the stories. It seems never to occur to them that cures accomplished with drugs that no longer cure are phenomena needing explanation. If those drugs were cures in the past, why are they not cures today? To state this differently, if they will not cure today, what reason have we to believe that they ever cured? Were not the reputations of the great healers of the past based on ignorance—ignorance both of the people and the healers? Their drugs were as valueless then as now. Medicine is truly, as Trall called it, a baseless fabric.

The historians never tire of telling us of the studies of nature that were made by various outstanding leeches of the past. Although, as is revealed by the absurd hypotheses they invented and the deadly practices they originated and carried out, they actually made precious

little study of nature, they are credited with having advanced medical science. Primitive man had a much better knowledge of nature than medicine's great men. Certainly, a true study of nature would have revealed to any intelligent student that the living organism needs and can use, both in health and in sickness, only those substances and conditions upon which organic existence depends and that substances that are injurious to the well are equally (or more so) injurious to the sick. The opponents of the drugging system clearly saw this fact from the very origin of the practice. Let us briefly glance at some of the early opponents of drugging.

Diocles of Carystus, who lived in the fourth century, B.C., although abandoning the Hippocratic and pre-Hippocratic view that every illness is primarily a general disorder, clung to most of the prehistoric modes of caring for the sick. He wrote on food, food plants and hygiene. He and his congeners of that century formulated a hygienic way of life based on the conception of the human being as a unity of mind and body. In his work on hygiene he formulated an ideal of a healthy human being. The Hellenic ideal, which he stressed, was a harmonious man, one who was equally made, who was well balanced, both physically and mentally, who was noble and handsome as well as healthy. Hygiene was the way to attain and maintain this ideal.

The daily life he set forth for the people of Greece is thought to have been the daily routine of the well-to-do class in Athens. He advised arising before sunrise, washing the face and hair, cleansing the teeth, massaging the gums with powdered peppermint and rubbing down the whole body with oil. A short walk then should precede the daily work. During the morning a visit should be made to the gymnasium for exercise. This was to be followed by a douche and massage.

Breakfast, taken at or near noon, was to be light, consisting of bread, a thin soup, vegetables, cucumber or other such food, varying with the seasons and simply prepared. (Greek working men were content with a portion of whole grain bread and a few olives.) Thirst was to be quenched with water taken before meals. He advised a little white wine sweetened with honey after the meal.

Breakfast was to be followed, especially during the summer months, by a period of rest in a cool, shady and retired spot. Following the noon-day sleep, one was to further engage in the day's occupation, after which a second visit was to be made to the gymnasium. The chief meal of the day was to be taken in the evening, which, in summer, would be just before sunset, and was to consist of fruit, vegetables, bread (whole grain), and fish or other flesh. (It should be recalled that fish were not highly regarded as food during the Homeric period.) A short walk was to be taken following the evening meal, and then, early to bed.

Obviously, this was not a daily living schedule for the working class. The mass of the population—peasants, handicraftsmen and slaves—could not have lived in the fashion he prescribes. But, with a few omissions, it is a sane way of life, which the working class could adopt with profit. With the coming reconstruction of society and the shortening of the work day, we may be able to enjoy the gymnasium, the nooning at midday and the moderate eating represented by two simple meals a day.

Chrysippus, an early successor of Hippocrates, was an “irregular practitioner” who acquired a very bad reputation. Medical historians say that they find little in his opinions to commend them. His greatest fault, perhaps, was not the fact that he mocked at the learning of the scientific physicians of his time, but that he rejected their practices. Bostock says: “We are told that he did not allow, in any case, bleeding, and that he discountenanced the employment of all active purgatives; and in short, that he rejected many of the most powerful and effective agents in the treatment of disease.” Bostock wrote at a time when the bleeding and purging practices were at their height and it seemed incredible to him that these cure-alls could be rejected by any man. Hence Chrysippus must have appeared to him as the worst kind of charlatan.

Erasistratus, the most illustrious pupil of Chrysippus, is accused of having “imbibed from him (Chrysippus) his prejudices against bleeding and against the use of active remedies, trusting more to the operation of diet (in the ancient sense) and the natural efforts of the system.” He is regarded as having contributed to medicine only because of his additions to anatomical knowledge. He lived in Alexandria about the middle of the third century and is regarded as the founder of physiology. He not only practiced dissection, but is believed to have resorted to vivisection. He discovered the valves of the heart, distinguished between motor and sensory nerves, taught that the ultimate branches of the arteries and veins are connected, was the first to reject absolutely the humoral hypothesis of disease that Hippocrates had put forth and severely condemned blood letting.

Erasistratus refused to tap the abdomen in dropsy because the removal of the fluid did not remove the cause and the abdomen would merely fill up again. This was not his greatest crime, however. His rejection of most drugs and his advocacy of exercise, rest, proper diet and the vapor bath, his complaint that the physicians of his era neglected hygiene, and his insistence that blood letting lowers the resistance of the patient, made him the target of future historians.

Today, do you advise the hungry man to “pull in your belt?” In his *Distinctions* Erasistratus wrote: “I reasoned therefore that the ability to fast for a long time is caused by a strong compression of the belly; for with those who customarily fast for a long time, at first

hunger ensues, but later it passes away ... and the Sythians also are accustomed, when on any occasion it is necessary to fast, to bind up the belly with broad belts, in the belief that the hunger thus troubles them less; and one may almost say too that when the stomach is full, men feel no hunger for the reason that there is no vacuity in it, and likewise when it is greatly compressed, there is no vacuity."

About a century before the beginning of the Christian era, Asklepiades of Bithynia went to Rome to teach rhetoric. Failing in this, he undertook a study of *medicine*. As he decried both the principles and the practices of his predecessors, medical historians have little praise for him. Unlike Paracelsus, who, at a later date, scoffed at the writings of Hippocrates and Galen and other ancient medical writers, and based his practice on alchemy and the infant science of chemistry, Asklepiades, who also scoffed at the writings of his predecessors, asserting that he had discovered a more compendious and effective mode of caring for the sick, refrained from the use of the "very active and powerful remedies" of the drugging schools and put his trust primarily in "the efficacy of diet, exercise, bathing, and other circumstances of this nature." He was the first to arrange diseases into acute and chronic types. He had a number of followers so that he may be said to have founded a school. Medical historians say that he was ignorant of anatomy and physiology, an ignorance he shared with all of the medical heroes they so delight in praising.

Thus it will be seen that, almost from the beginning of the drug school, a war was started against the primitive and normal ways of caring for the body and against all those men who rejected the poisons and the absurd theories of the drug school and relied upon the normal things of life in their care of the sick. The word quack (from the German quacksalber) had not then come into use, else they would certainly have been labeled quacks, even though not one of them ever gave a dose of quicksilver in his life. Then, as now, the position of the regular medical profession was: "We have not educated you; you teach not our doctrines and employ not our practices." Although the Greek medicine men of the period had about as much science as the astrologers, we find in the works attributed to Hippocrates differentiations between scientific and un-scientific physicians.

THE GODS COME TO EARTH

Chapter 22

In his *First Lines of Therapeutics* (1879) Harvey, commenting upon the statement of David that "it is God that heals," says "that its general import is the same as that of the Hippocratic *Vis . . .*" referring to the *Vis Medicatrix Naturæ* or "healing power of nature," of Hippocrates. The Hippocratic maxim that "our natures are the physicians of our diseases," probably had no more significance than the prior belief that it is God that heals all diseases. What did Hippocrates mean by "our natures?" There was an idea widely current among the Greeks of the era, and especially subscribed to among the philosophers, that the whole universe was a living organism. When it was said that nature heals, was it this living nature that had supplanted the former gods that did the healing? If so, the Hippocratic maxim was merely a re-statement of David's maxim.

Harvey thought that both ideas, if they represented different conceptions, had their origin in the fact, obvious to all, that the sick frequently recover health independently of the arts of the magician and physician. He says that, in David's experiences with physicians, if he had such experiences, he must have realized that "their knowledge of physic and their skill as physicians were by no means great; and he may have felt that he had in fact been beholden many times when sick to another agency than theirs." Viewing the matter in this light, we may say that the ancient practice of giving credit for recovery and healing to something other than the incantatory rites of the magician and the poisons of the physician represented a recognition of a fact that is now known to be absolutely true. If one can no longer credit the gods with healing power, neither can we credit such power to rites, ceremonials and poisons or to the human imagination.

If we employ the term nature in any metaphysical sense, as did the ancients, we may have nothing more than a new god to add to our pantheon. If we personify nature, as is the modern tendency, it tends to become an intelligent and purposeful entity performing all of the functions that were formerly performed by the deities. Thus, when we declare that "it is nature that heals," we are saying practically the same thing as did the ancient priests when they declared that "it is god that heals." What we are saying, without recognizing the fact, is that healing is accomplished by some power or agency other than the therapeutic measures and modalities employed by the treatment-peddlers.

The therapeutics of any generation are always absurd to the next, not because the next generation casts off its belief in cure, not

because it has any better therapeutics (it may be worse), but because the profession of medicine recognizes the absurdity of a practice only after it has taken up a new one. From the time of Hippocrates to the present, there has been a ceaseless change of methods of treatment coincident with an undying faith in the power of the physician's treatments to cure. But a study of the methods of the past reveals that they have not been curative. Whether or not a particular mode of care or a particular remedy enjoyed an extended vogue or but an evanescent one, it was ultimately discarded and its place was taken by another simply because it failed to produce the expected results.

Amid all of this ceaseless change of means and methods of treating the sick, patients have persisted in recovering from their illnesses in the great majority of cases. Few so-called diseases, especially of the acute ones, have ever had, under any plan of care, a mortality rate to exceed fifty percent and most of them have fallen far under this level. If the remedies did not restore health, what did? Certainly, if the remedies were not responsible for the recoveries that occurred, some other power of recovery was responsible. The ancients attributed recovery to the direct intervention of the deities; Hippocrates attributed recovery to nature; physicians have all along, tried to find a reason to attribute recovery to their drugs, but they have been unable to make the drugs work.

Today, we know that healing is the direct result of the organism's own instinctive self-preservative activities and in no case can be accomplished by other powers. Healing is a complex biological process, not an art. It is accomplished by processes and functions that are intrinsic to the organism and not by outside forces and processes. A broken bone is not joined at the point of break by cement and a sleeve, as man might join together two pieces of stone or iron; complicated histogenic processes, involving the creation of new structure, which are identical with the histogenic processes that produced the bone originally, are carried out in the process of reuniting the separated segments of bone. The process is neither chemical nor physical, but biological. There is the exercise of the same creative and recreative processes that are involved in the production of a whole new being from the zygote. The process, being biological, the materials employed must, of necessity, be such as biological processes can make use of.

By this last statement is simply meant that the processes of healing require the use of the normal elements of life—food, water, air, sunshine, warmth, etc.—that were requisite to the original production of the injured parts and do not require materials and influences that were not employed in the original work of production. Indeed, it is not conceivable that these processes can make use of exotic materials. By the normal process of self-recuperation, a process in which are

involved all of those processes of living organisms that are concerned in repair and regeneration, the organism is enabled to maintain itself; by modifications of these same processes, it is enabled to repair itself.

The necessity for an emergency system which can be thrown into instant action without any prior notice seems to be universal and must be of such a character that it can come into immediate action against any foe and in any emergency. If frequently injurious influences cannot be avoided, it is only through inner resistance that they may be adequately met. Woe to the individual that yields to ways that dissipate the inner powers of resistance.

In every living organism there resides the power to conserve and preserve life. The recuperative resources lying coiled up in the organism are able to preserve the life of the organism through severe losses in ways that challenge the admiration of the thoughtful. The wonderful power of the body to conserve and preserve, when not interfered with, is the power upon which we must always rely to recover from injury and poisoning. If we can once grasp the vital fact that the healing power does not exist outside the sick individual, we can cast off our superstitious faith in the physician and his bag of tricks. Indeed, it is essential that we impress upon you, day by day and hour by hour, that it is not the diet or the sunshine or the water or the exercise or the rest and sleep that has in it the ultimate power of restoring you to health, but that these are only the means that are employed by your own self-healing power, with which to do its work. The healing power is intrinsic to the living organism.

What the living organism seeks is to make clean and repair, to make clean and repair over and over again, patiently knitting together broken bones and torn flesh, casting out the old and building the new. The organism's broom and dust pan are never far away. Nature's flail is in her hand and she is forever beating out the chaff that the wheat may be saved. Her darning needles are always ready at hand, that repair of tissues and organs may be in continuous operation. Integrity is her watchword, restoration her constant endeavor.

Soap and sand do not cleanse the human organism. These succeed in removing surface dirt. But nature has provided her own powerful agents for the elimination of impurities. Excretion begins in the cell, which expels its cell-waste into the lymph stream, which carries this to the blood, which, in turn carries it to the organs of depuration. The organs of elimination are the agents that free the blood of its load of waste or impurities. Then there are diseases that scour and eruptions that fling the dirt out through the skin. When these processes of excretion have completed their work, the body is purified; the dirt has not merely been swept into the corner or under the rug.

How can two systems of practice so radically different and so exactly opposite to each other as medicine and chiropractic both be

true? If either of them is a true system, how is it possible that Christian Science can contain even a modicum of truth? No informed man will deny that patients get well under all three of these systems of care, yet if any one of them is based on truth, the other two must, of necessity, be based on fallacy. If, for example, the etiological hypothesis that underlies the "adjusting" practices of Chiropractors is true, recoveries under medical and Christian Science care or under hygienic care should be rare to non-existent. If the sick get well while being "adjusted" and if they get well when no "adjusting" is being done, what really accounts for their recoveries?

Chiropractors now admit that their etiological hypothesis is false, so that there is no basis for their "adjusting." What, then, accounts for recoveries when they "adjust" fictional subluxations? Chiropractors claim that they are the second largest school of healing in the world today. They have a number of colleges, two or more hospitals, a number of clinics, are well organized and number their practitioners, both in this country and abroad, by many thousands. All of this has grown up on what chiropractors themselves admit is a rank fallacy. The growth of this fallacy may be taken as representative of the growth of numerous other medical fallacies. All of them have ridden to glory on the self-healing powers of the body, being helped into the saddle by the ignorance and blind credulity of the people.

All healing methods and healing systems misdirect the faith of the sufferer. He is taught to believe that healing virtue resides in some external appliance or measure and not in himself. So far as he and the healer are concerned, the living organism is a helpless and more or less stupid lump of clay that must be assisted from without, else it will not recover health. It does not matter that, theoretically, practitioners of the various schools of healing reject this view and declare that "nature heals"; they proceed on the implied assumption that their measures do the actual work of healing and they give this same idea to their dupes. So long as the people can be induced to believe that healing is accomplished by something outside themselves, they will remain willing and slavish dupes of the healing professions. When once they fully realize that healing is an internal biological process, they will free themselves from this age-old slavery to the professionals and learn a way of life that assures good health.

When we say that the success of some particular form of practice, as carried out by priest, medicine-man, physician or healer, depends upon his ability to impress the imagination of the patient, we credit to the imagination also the power of cure with which physicians invest their poisons. It is difficult to decide who is the most superstitious: those who believe in the curative power of the imagination or those who believe in the curative power of arsenic or penicillin.

To say that ignorance and superstition are characteristic of the savage and that, due to these, he is mightily impressed by the spells, incantations and exorcisms of the medicine-man and that, thus, his imagination is powerfully influenced to cause him to recover, is to place as much curative power in imagination as the religious healer places in faith. Is it faith or imagination? Is it not possible that the religious healer plays upon the imagination and that the subject of the activities of the medicine-man also exercise faith? Do the drugs of the physician cure or appear to, because the patient has faith in them or because they excite his imagination? Or is there some more reliable and more fundamental source of recuperation and restoration?

There is an unvarying uniformity in the operations of nature. These always and under all circumstances obey the same laws. It is not logical to attribute recovery in one case to the operation of the physician's drugs, in another case to the direct intervention of God, in another case to the patient's imagination and in still another case, to nature. Recovery must always be the result of the operation of the same processes and functions and must always take place in obedience to the same laws of being. The man who is so devoid of logical power that he cannot understand that there can be but one correct system of care is like a weather-cock—unstable and carried about by "every wind of doctrine." Two systems, antagonistic to each other, cannot both be based on correct principles.

The perverse employment of psychology by the physician, who never fails to fill his patient with fears, anxieties and apprehensions enough to keep him coming back time after time for treatments and checkups, is a criminal practice. If the ancient priesthood employed rites and ceremonials and other religious trappings with which to imbue their patients with hope and confidence, if they instilled into their patrons the belief that the gods would ultimately restore them to health, they worked in a directly opposite way from that which is now employed by physicians. "If you are not operated on immediately you will be dead before morning," is not a pronouncement that inspires hope and confidence, but one that fills the patient with fear, gloom and despair. To dwell lingeringly over the worst states of paralytic poliomyelitis and ignore the obvious fact that not more than two percent of the people ever have the disease, even in the worst epidemics, in an effort to frighten everybody into being vaccinated, is a perverse employment of the principles of psychology. It is never stated, it is only implied, but the implication is strong enough to strike fear into the breasts of the unthinking, that everybody who is not vaccinated is sure to have polio. This is to use the big lie as a means of frightening the people in order to control them for commercial ends. It is well known that it is only necessary to keep repeating the big lie to get it believed.

The healing power of the body, the only healing power of which we have any knowledge, is always forgotten by the cure-mongers and treatment-peddlers. So busy are they "doing something," it seems to matter not what, that they never stop to notice the damage they are doing. The cures that are claimed for the drugs are results of the sick person's own ability to live; they are due to his capacity to heal himself and to throw off the drugs before these have worked considerable harm. Indeed, many deaths are due to drug treatment in cases that, except for the drugging, would speedily recover.

Whether one relies on God or nature or the intrinsic forces and processes of one's own organism to restore one to health, makes no difference, except insofar as this reliance may determine what one does in order to get back to health. One who relies on God may be content with prayers and ceremonials; he may neglect vital essentials of recovery, such as removing cause and correcting the ways of life. To rely on the internal forces and processes of organized existence requires that the requisites of that existence be adequately supplied according to need and the capacity of the organism to make constructive use of them. It requires, in addition, that all impairing influences be removed. In modern usage, reliance upon nature commonly means reliance on the irritative use of heat, cold, water, earth, air, light, manipulations, electricity, etc., as curative measures, and there is a strong tendency to rely upon these measures and means to the exclusion of the genuine requirements of recovery. The Natural Therapists or Nature Curists have water cures, earth cures, light cures, diet cures, air cures, manipulative cures and various other cures. The majority of them, at least, not only practice all the common vices and disease-building habits of the population in general, but they do not proscribe such practices in their patients. The chiropractor may assert that nature cures, that he merely removes nerve impingement, thus permitting normal nerve flow, and leaves the rest to nature. He may do just that; he may make no alteration in the life of his patients, but may rely upon the "adjustment" to the exclusion of all else.

The psychologist may be content to attempt to remove mental blocks and ignore diet or exercise or rest, etc. He may permit his patient to smoke, drink, indulge in late hours and a host of other enervating practices. In principle, these means of treating patients do not differ from that of giving drugs. In all cases, causes are not removed and the normal requisites of life are not adequately provided.

The man who is suffering from habitual overeating, is not restored to health by permitting the overeating to continue and giving him a pill; the man who is suffering from lack of sleep, is not restored to health by permitting him to continue to stay up most of the night and giving him a psychological formula; the man who suffers from overwork, is not restored to health by giving him an "adjustment" and

permitting him to continue his overwork; the man who is suffering from eating a wholly denatured diet, is not restored to health by prayer and more of the same diet.

When in the Asklepan temples, the priest relied upon the god to heal the patient, but supplemented this reliance with fasting, dietary supervision, leisure and rest, exercise, sunbathing, cleanliness, continence and other such wholesome factors; when they required abstinence from wine and other such indulgences, they at least partially met the genuine requirements of a valid system of mind-body care. Their religious practices were probably as effective in providing peace of mind and emotional poise and in removing internal conflicts as are the most successful psychologists of today. In Vol. 1 (p. 52), of his *Encyclopedia*, Trall says: "The ancient priests and monks placed their patients in airy, salubrious situations, enjoined strict abstemiousness or the simplest food, gave water to drink and prescribed efficient washing or bathing for thorough cleanliness, and then performed their magical ceremonies. Their patients recovered; nature worked the cure and the doctor got the credit." What do we mean by nature in this instance? The ancient priests, who were not called doctors, did not give credit to nature for the recovery of their patients, but to the gods. Fortunately for their patients, they had preserved and continued to employ the pristine ways of care that man used from the beginning of his life on the earth. The neglect of the normal elements of life that set in with the adoption of the drugging practices led to disaster. As man learned to rely more and more upon drugs, he neglected more and more the essentials of vigorous existence.

DARK DETOUR

Chapter 23

Evolution implies continuity and uniformity. Medical historians indicate a chain of medical "progress" from earliest times to the present; but this is hardly justified, as we note that they continue to class incantatory rites, ceremonials and prayers as medicine. In addition, they assert that Hippocrates broke with the superstitions of the priestcraft and attempted to build a system of rational medicine upon a naturalistic basis. This alone is a refutation of the contention that what preceded was the foundation of his synthesis. In spite of this reputed break, it is obvious that Hippocrates made no radical break with the past. As I have already indicated why the pre-Hippocratic practices cannot be classed as medicine, I shall not consider this further at this place, but shall begin my story of the evolution of medicine with the time of Hippocrates.

Isocrates (436-338 B.C.) an Attic orator, who taught at Athens and whose school was the only rival of the Academy of Plato, was a contemporary of Hippocrates, though no leech. He has preserved for us a precept from the *Books of Lot* which says that no medicine was to be given which could not be swallowed with as little danger or disturbance as our ordinary food. If this was the pre-Hippocratic practice, if this was the character of their medicines, we may be sure that they employed non-poisonous herbs or herbs that were so mildly poisonous as to occasion little resistance by their presence.

This mild form of medication was practiced by many, if not most of the "great" physicians of the Hippocratic and immediate post-Hippocratic era. At first, indeed, they relied chiefly on the management of the life of the patient rather than on medication. Only little by little did the drug system supersede the regulation of the diet and habits of the patient and only little by little did resort to stronger and stronger poisons supplant the milder medication of the early practice. If the laxatives of the temple were, as Dunglison informs us, very mild, under the reign of the rising medical profession, the mild laxatives gave way, after a time, to harsh, toxic substances that occasioned more vigorous bowel action—purgatives and drastics. If the drugging system began mildly, almost inoffensively, it has slowly, over the course of centuries, evolved to its present stage of offensiveness. At first, it continued reliance upon the normal needs of existence, and only slowly did it abandon these and lean more and more upon the killative effects of deadly poisons.

Medical historians, who are foolish enough to include the pre-Hippocratic practices of the temples in their "histories" of medicine,

say, in the words of Sigerist, "from dietetic methods to drug treatment the transition was gradual." The term dietetic as here used should be understood in its ancient sense. This simply means that the medical profession, which arose around 400 B.C., found it a slow and difficult process to divorce the people from reliance upon the primitive ways of caring for the sick. They succeeded only little by little in leading the people away from the ways of nature and into a reliance upon the disease-inducing poisons of the leech.

Eryximachus, the physician in Plato's *Symposium* (385 B.C.), advises Aristophanes on suppressing a hiccough, which developed while he was talking: "If on holding your breath a good while the hiccough chooses to stop, well and good; otherwise, you must gargle with some water. If, however, it is a very stubborn hiccough, take something that will tickle your nostrils, and sneeze: do this once or twice, and though it be of the stubbornest, it will stop." This may be rejected as evidence of the mildness of the forms of treatment that were in vogue at the time, as hiccoughing is rarely anything more than an evanescent inconvenience and would not be thought of as requiring drastic measures, but I offer it along with the other evidence here presented.

As late as 300 B.C., Herophilus, who is listed among the "great physicians" of the time, taught that in the care of the sick, dietetics comes first. Only after diet did he list drugs. But he was a victim of the evolving theology of the period. He taught that when the physician prescribed drugs, it was as if the deities were interfering in the course of the illness. Indeed, he termed drugs the "hands of the gods," a thought that easily and naturally grew out of their prior ceremonial use, and prescribed them for all of his patients. Although he still practiced much of the hygiene the Greeks had brought with them from the prehistoric period, he relied heavily upon the "hands of the gods"—poisons or poisonous herbs—more than his predecessors.

The drug system was advancing and hygiene was being slowly pushed into the background, to be, although not until at a much later period, ultimately forgotten. Bleeding was extensively practiced by this time and many physicians bled indiscriminately. Erasistratus, a contemporary of Herophilus, declared that there was no sense in bleeding all the sick without distinction, but he had little effect in staying the avalanche of blood that was to flow from human veins at the hands of physicians for the next two thousand years—until after the middle of the nineteenth century in fact.

I must pause here long enough to say that hygiene could be forgotten only in the practices of physicians and in the consciousness of the people. Any valid hygiene must involve, as an absolute necessity, the proper use of the primordial requisites of organic existence, hence it must be coeval with life. It must be based on first

principles and go back to primitive practices. It is impossible for man, under any circumstances of existence, to completely depart from the normal ways of life without producing speedy death. Prehistoric man lived, in both health and illth, in a more or less hygienic manner and he brought his hygiene with him into the historic period.

We must pass briefly over this early period of medicine, omitting discussion of the post-Hippocratic men who became more or less famous for their alleged contributions to medical science. To include a list of stories of the "great physicians" from Hippocrates to the break-up of the Roman Empire would be to greatly increase the length of this book and would serve no useful purpose. One cannot read their stories without concluding that they were practically all conscious impostors. They were haughty, arrogant, deceitful, tricky, dishonest and corrupt. They pretended a knowledge they did not possess, thus setting the pattern for the medical profession that it has followed ever since. They claimed curative powers for their drugs and skills in their administration that were mere fictions, setting a medical pattern that is still followed today.

The Ptolemies founded a medical school at Alexandria about 300 B.C. Celsus has recorded of certain of the notables in this school that "they procured criminals out of prison by royal permission, and dissecting them alive, contemplated, while they were yet breathing, the parts which nature had before concealed." May I remind my readers that many physicians of today have demanded that condemned criminals be turned over to the medical profession for vivisection. The profession has not undergone any change since its birth.

It should never be forgotten that they were physicians who, in Hitler's Germany, sadistically tortured human guinea pigs by performing all manners of diabolical experiments on them, many of them being beaten to death, choked to death by steam, buried alive in trenches, torn to pieces by dogs, and subjected to other cruel tortures. It may be contended that American physicians would never stoop so low, but this need not be taken seriously. Americans are not unlike the peoples of Europe, from whom they are largely derived, and when trained in vivisection, both during their pre-medical years and in medical college, and hardened by such cruelties, there are few physicians who do not cherish the desire to indulge in human vivisection.

German physicians are reported to have committed most of their atrocities on Jews; in this country our physicians could easily rationalize similar experiments on Negroes or Native Americans or other racial fragments. Indeed, there exists sufficient smoldering resentment against Jews, should it be fanned into a flame, to cause them to be subjected to atrocities in this country. Let us not forget that we are the only people who ever dropped an atom bomb on defenseless

women, children and aged men. Our self-righteousness is filled with holes.

We cannot overlook the fact, also, that American physicians and surgeons are constantly performing experiments on patients. Every new operation, every new drug, every new serum, every new form of radiation must go through a lengthy period of clinical testing before it is finally accepted or rejected. Every hospital, every clinic, every physician's office is an experimental laboratory where many dangerous and even fatal experiments are carried out, not occasionally, but as a regular feature of medical practice. The callous attitude physicians have towards human life is shown by the mass experiments they carried out with gamma globulin, the Salk vaccine and Sabin vaccine. Although they were well aware that each of these substances was potentially dangerous, they hypocritically assured mothers and fathers that they were safe. Later they helped to smother the evidences of their harmfulness and their failure as preventives.

Medicine soon broke up into a number of warring sects, the first two of these being known as Dogmatists and the Empirics. Then followed the Eclectics and the Pneumatics, with minor variations down to the time of Galen. Nothing will be gained from a discussion of the wild vagaries of these schools and their fantastic practices. The name of Acron, the physician of Sicily, who was a contemporary, if not a predecessor of Hippocrates, is mentioned by Pliny as the first to have attempted to apply philosophical reasoning to medicine, but beyond the story that he was a pupil of Empedocles, we have practically no knowledge of his history or character. While Pliny attributes the origin of the Empirical medical sect to him, Celsus states that Serapion of Alexandria was the first to advise the abolition of theory and the use of experience as the only guide.

The growing reliance upon drugs is shown by the statements of the Empirics that "the important question is not what causes disease, but what dispels it," and "Diseases are not cured by talk, but by drugs." It will be seen from this that they had quickly abandoned the idea that "our natures are the physicians of our diseases." In fact, after the establishment of the medical school at Alexandria, Egypt became a place where poisonous plants, such as henbane, hemlock, aconite and dorycnium were grown in botanical gardens as drugs. By medicines, poisonous substances were understood then as now. Slowly the medical profession led the people away from hygienic management of the sick and into a stupid reliance upon the foes of life as cures. From balm mint to arsenic, from camomile to antibiotics was a long road, but we have made the journey under their tutelage.

From Galen we learn that the physicians of this period had their herb gatherers or *rhizotomists*, ointment-makers, cooks, plaster-spreaders, poultice makers, administrators of clysters, bleeders and

cuppers. Today the nurse does much of this flunky work, but they also have other flunkies in the form of orderlies, masseurs, physiotherapists, anesthetists, pharmacists, pharmaceutical manufacturers, and technicians of various kinds. But to discuss only the herb-gatherers: these were usually of the lower classes, illiterate, superstitious and with no knowledge of botany. They gathered whatever they found and the physicians used their gatherings. It was inevitable that numerous poisonous plants were brought in and that the number of medicines increased. Ignorance, confusion and chaos ruled these physicians and their flunkies. There was no medical science; there was not even the hope of a science; there was but the rankest kind of charlatanry and superstition. Bombast paraded as knowledge and pretense took the place of a valid art of caring for the sick.

Robinson recounts the story of the theriac or mithridate, a drug that contained practically a whole apothecary shop and was made differently by each physician. It was regarded as a universal antidote and there were court physicians whose sole duty it was to prepare it. It is interesting to note that the famous Galen believed that it was a universal panacea and made it with his own hands. He called his product: "the hundred ingredient antidote which I use, and which I compounded for the emperor, suitable for all deadly poisons."

There is no certainty that this drug grew out of the oft-told story of Mithridates, but Robinson retells the story in connection with the theriac. The king learned about poisons by experimenting with his relatives, criminals and himself. Surrounded by enemies he attempted to protect himself from poisoning by studying the effects of poisons and their antidotes. In time, so the story runs, he evolved the "universal antidote," mingling it with the blood of Pontine ducks, who, we are told, thrived on the toxic substance. By gradually increasing the dosages he took, his poison-saturated body was protected against all poisons. Eventually, so runs the story, when Mithridates was cornered, he took the deadliest drugs in vain and had to kill himself with a spear. Robinson says that he was "living proof of immunity," thus inferentially, at least, connecting so-called immunity with toleration. What is called immunity is, like the condition of Mithridates, a state of chronic poisoning.

Let us come to Galen. It is no easy task to separate fact from myth in this man's life. Miss Shippen says: "Galen's father, Nikon, had intended him to be a philosopher, not a doctor. But one night Nikon was instructed in a dream to educate his son as a physician. Since he believed implicitly in dreams, the boy was sent to study medicine." The dream angle of this story matches the story that he was "sent to study medicine." Sent where? He traveled and listened to ignoramuses who knew more about bombast than they knew about the care of the sick. "To study medicine in those days," says Miss

Shippen, "it was necessary to travel." So he journeyed to Pelops, through Greece, Cilicia, Phoenicia, Palestine, Crete, Cyprus and, finally to Alexandria. In these places, she informs us, he "sought the best known doctors from whom to learn."

Galen himself tells us of the medical school at Alexandria: "The art of medicine was taught by ignoramuses, in long illogical lectures to crowds of fourteen-year-old boys who never got near the sick." At his birth place, Pergamum, capital of Hysia, in Asia Minor, at the time of his birth, there still existed an Asklepiian temple and he probably became well acquainted with the works of this temple.

Discarding the sects he attached himself to the Eclectics. He became the outstanding physician of the ancient post-Hippocratic world. He copied largely from the Hippocratic writings and from other of his predecessors and contemporaries and formed a new system of practice out of such materials as suited his purpose. His writings became very popular and swayed the whole medical world, despite the fact that his dissections were all performed on apes and swine. After his death he was practically deified and his works were regarded as divinely inspired and, consequently, infallible. This accounts only in part for the fact that, from his time onward for a thousand to fifteen hundred years, little or no change took place in medical practice in Europe. As his writings were divinely inspired and infallible, no change was desirable or expected. Thus it was that through the Dark Ages Europeans plodded on, looking to the past for light, and considering and treating all pretensions to reform and improvement as dangerous innovations, to be suppressed at all hazards, even at the sacrifice of the suspected reformer. Tyranny ruled while darkness covered the world and gross darkness the people.

A severe critic of contemporary medical sects in Rome, where he practiced for several years, Galen relied upon simple remedies, stressing fresh air and milk. He used massage and revived the practice of blood-letting, which had declined. Physicians regard Galen as one of their bright minds and overlook or forget his statement that the difference between physicians and robbers is that robbers commit their misdeeds in the mountains, physicians commit theirs in the capital. His observation is still apropos, although physicians are no longer confined to the capital. Actually, in theory, Galen was a Dogmatist, although he professed to venerate and act upon the principles of Hippocrates.

The Hippocratic doctrines and practices, often somewhat modified by his successors, were carried to Rome and other parts of the Empire, and, through Galen, passed into the Byzantine empire. They were also carried, with Greek culture, to Syria and, from here by the Nestorians, to Persia, and from Persia throughout the Mohammedan world, where they were taken up by the Arabs and greatly extended. The Arabian school arose about the middle of the

seventh century. Starting as a Hippocratic and Galenic school, it soon evolved into a different school as the rising sciences of alchemy and chemistry caught their fancies.

When Nestorius was excommunicated for his alleged heresies, he took many Greek scripts dealing with medicine with him into the East, where they became the sources of Arabian medicine. The Arabs took to medicine, as they did astrology and alchemy, and soon the practice was flourishing in the near East, although during the Dark Ages its practice was not extensive in Europe. The Caliphs built hospitals in many places at a time when Europe was being served by the priestcraft and indulging in church sleep. The hospitals not only treated the sick, they taught medicine. "Medical plants were grown in their botanical gardens" as they were in the monastery gardens of Europe. Medicine, astrology, alchemy, incantations—these continued to be practiced together, both in Europe and in the East.

Although Arabian physicians studied the works of Hippocrates and Galen, which contained much of the hygiene of antiquity, they also pushed the drugging practice to new extremities. They employed fasting, diet, moderation in eating, a certain amount of abstinence from harmful habits, etc., and continued the cleanliness of the Asklepiian temples, while the civil authorities continued the sanitary regulations of the ancients at a time when Europe was sunk in a morass of filth. Mohammed included such hygienic features in his writings and many Arabian physicians wrote upon the value of the various hygienic factors, although their writings were largely re-hashes of the works of Hippocrates and Galen.

They had adopted the opinions of Galen and, although they do not seem to have adopted the idea that he was divinely inspired and infallible, they followed his plan of care implicitly. Under the influence of alchemy and, later, with the rudiments of chemistry, a new school arose among them. Chemical, as opposed to herbal medicines, came into extensive use among the Arabs. They found many new drugs and many new ways of preparing them. In general, however, it may be said that the Arabian physicians of the Middle Ages did not venture far beyond Hippocrates.

Arabian physicians pursued the will-o-the-wisps of alchemy and chemistry and were instrumental in introducing many new drugs into medical practice. Thus it was that when Europe awoke from the long medieval nightmare and began again to study natural science, they found in Arabian medicine, to which they turned with avidity, a well developed system of drugging. They adopted the drugging and ignored the hygiene and sanitation, so that we may say that it was alchemy and not the monks that survived. Some time had still to pass before laymen and not the medical profession began to recognize the importance of hygiene and Sanitation.

When Western scholars began to pour over the medical writings of the Arabians, they found them to be largely rehashes of the works of Hippocrates and Galen, but they also found the many new drugs and new ways of preparing them. It was the drugs and not the hygiene and sanitation that fired their imaginations and captured their loyalties.

It was in Bagdad in 931 A.D. that the practice of licensing physicians originated. This licensing system was adopted in an effort to end the gross abuses of which medical practitioners were guilty. An incident connected with the examinations of candidates for license suggests that the Arabian physicians had not, at that time, strayed very far from the mild medication of Hippocrates. "An old practitioner was up for license and was told that he could have the license provided he would not prescribe blood-letting, or any purgative drug except for simple ailments." The old man could not read or write well and had done no systematic reading. He replied to the examiner: "That has been my practice all my life, nor have I ever ventured beyond oxymel and jalap." The next day a young man applied for license and was asked: "with whom did you study?" He replied: "With my father." The examiner asked: "And who is your father?" The young man answered: "The old gentleman who was with you yesterday." The examiner replied: "A fine old gentleman! And you follow his methods?" The young physician answered: "Yes." "Then see that you do not go beyond them," advised the examiner, as the young man received his license. The distinguished physician, Sinan, who was the examiner, was also an astrologer—medical historians class him as an astronomer to hide the real character of his work.

In Europe medicine waned and the church took over. The twin beliefs that an irresponsible deity causes disease and that disease is a torment of the body by demons had not died out among the peoples of Europe and Asia, indeed, these ideas are still believed by millions of people, but they received a new impetus under the teachings of the Christians, Jesus and his disciples having performed many miracles of healing by casting out devils. The priestcraft of the Middle Ages and before, and well into the modern period, busied itself with the work of exorcism. Robinson says that with the passing of Galen "the science of antiquity has run its course" and that "at the end of the second century the thread of rational medicine snaps" and that thereafter medicine "spins a ghostly loom, producing charms and amulets." The Dark Ages did not set in but the rational medicine of Hippocrates seems to have taken a nose-dive at this time.

From the 12th to the 15th centuries the practice of medicine in Europe was chiefly in the hands of the monks, whose leading resources were mainly drawn from the magical arts and astrological superstitions. But the monks began their work at a much earlier time. The

bishop of Basil founded a hospital as early as 370 A.D. About thirty years later one was founded at Constantinople for the care of the poor. The monks founded hospitals, the care of the sick being part of their work of charity. The church has always exalted charity, the work of rescuing the victims of socio-economic injustice and equality, above the work of correcting, at their roots, the economic and social evils of civilization. The Benedictine and Franciscan orders especially looked after the sick among the poor. Medicine, as we know it today, owes a great debt to the hospitals and physic gardens of the monastic orders and to the medical schools of the ecclesiastical universities of the Middle Ages. These universities tolerated Jewish-Arabian scholarship, hence Arabic medicine ultimately became European.

The physic garden was an essential element of every monastic order that cared for the sick. Physic was the medicinal herb. It is well known that in Imperial Rome the cultivation of herbal medicines in the centers of culture was not carried out on the same scale as in the monasteries. The monastery physic garden was well stocked. The monasteries imported plants from abroad to raise in their gardens, these being brought chiefly for medicine, although some of them, no doubt, were food plants and ornamental flowers and shrubs. Hogben says that "the importance of the monastery garden lies in the fact that it brought into one and the same social content the cultivation of plants for use as food, as ornament and above all as physic." Thus, the monk set the pattern that has since been followed by the medical profession; for, besides their magic and flumdummary, their medicine was herbal.

Botany, the study of plant life, grew directly out of the close association between medicine and its survey of plant life in its search for cures, which, in turn, grew out of the superstitious belief in the healing benefits of herbal preparations. The profession of medicine is still engaged in a world-wide search for new herbs, in the hope that in unknown plants may be found new cures. The stupid superstition that poisonous plants will heal the sick is still clung to by millions the world over. If a plant is unsuitable for food, this is to say, if it will make a well man sick, it is good for the sick, it is a medicine, it will cure disease.

During the Middle Ages, it was the thought of the people, a thought they had received from their priests, that the Lord would care for his own, so they took little interest in the sick. Prayers and repetitions of Peter Nosters, pilgrimages to "holy" places, votive offerings, and church sleep were the most popular means of caring for the sick. The saints also interceded for the sick. Saint Blaise was available in throat ailments; Saint Appolonia cured toothache; Saint Erasmus cured the abdomen; Saint Lawrence looked after pains in the back; three saints, Bridget, Trituana and Lucia, cared for the eyes; Saint Dymphna could be called upon in certain cases of insanity; Saint

Avertin looked after people who suffered with epilepsy; when all hope for the patient was abandoned, Saint Jude would often render assistance. To the people, it seemed much wiser (and probably was) to light a candle before an image of a saint than to call a physician.

Although as early as the sixth century the more enlightened Greeks lost faith in the efficacy of temple sleep, the practice lingered on and was later transformed into church sleep. Many are the miracles reported in Christian literature that took place during church sleep. Deafness, blindness, paralysis, gall stones, kidney stones and various other hopeless cases were restored to excellent health through this means. Gregory of Tours tells us of the healing of one Mummulos, ambassador to the court of Justinian from king Theudebert. Mummulos suffered with stones in the renal bladder. He was advised to sleep a night in St. Andrew's church at Pateras, for St. Andrew had performed many miraculous cures in the church. He did so and was immediately relieved of a huge stone and was restored to health.

The Christian saints took over practically all of the former offices of the gods and goddesses of the ancients. Some of the saints became medical specialists: thus St. Anna was an ophthalmologist; St. Jule cured coughs; St. Valentine cured epilepsy; St. Catherine of Sienna cured the plague. St. Martin appeared to a woman in her sleep (in the church) and stretched her bent fingers so much that blood flowed from them. St. Benedict operated on the German Emperor Henry II, removing a stone from the bladder and subsequently, promptly healing, from his heavenly residence, the wound which he had inflicted upon the emperor. St. Roch of Montpellier distinguished himself by his veterinary skill. Even relics and tombs of the saints came to possess and exercise healing power.

Church sleep, as practiced for several centuries in the churches of Christendom, was as much like temple sleep among the Greeks, as two peas in a single pod. The chief difference is that, whereas the Greek gods commonly hurried to the assistance of the patients, the Christian saints often allowed years to pass before the patient, crying for relief and giving of his wealth, was relieved of his suffering. Christianity created another variety of temple sleep which was taken outside the church. This was exactly as efficacious as sleep in the church itself, providing the patient had fervently prayed before falling asleep. During epidemics the churches were often filled with sleepers seeking the aid of the saints.

Another very efficacious means of securing the healing ministrations of the saint, was that of placing the patient in the church during the day, between the altar and the grave of the saint. The bed of a mortally sick patient was frequently placed there and the patient permitted to struggle for days for life. The dying Countess Eborin, for example, was handled in this manner.

A further development of church sleep grew out of the fact that the saints were in no hurry to cure supplicants, but made them wait for years for relief. Large buildings were erected close to the church for the reception of the sick, who, hoping to find help, could obtain shelter, food, quiet and rest while awaiting the moment when the reluctant saint might bring them heavenly aid. This arrangement proved to be very practical as it came to be added income for the church.

Travel in the Middle Ages was difficult and beset with dangers. A means had to be found to take the saintly virtues to the sick. This was managed by the use of relics—objects possessed by Christian martyrs and very pious men and women were endowed with healing powers and could be widely distributed. Even powder scraped from the tombs of the saints had healing virtues. No less a luminary of the church than Gregory of Tours reported concerning the medicinal virtues of tombstone scrapings: "Oh, indescribable mixture, incomparable elixir, antidote beyond all praise! Celestial purgative (if I may be permitted to use this expression), which throws into the shade every medical prescription, which surpasses in fragrance every earthly aroma and is more powerful than all essences; which purges the body like the juice of scammony, clears the lungs like hyssop, and the head like sneezewort; which not only cures the ailing limbs, but also, and this is of much more value, washes off the stains from the conscience!" That was a remarkable dust! Can penicillin do any better?

Gregory reports that he himself was cured of a tumor of the tongue and lips by merely licking the rail of the tomb of St. Martin and kissing the curtain of the temple. Curative relics were numerous and varied, including such things as charred wicks of candles that had burned in the church, the wax which dripped from the candles which had been placed near the sepulchre, the water which had been used before Easter to cleanse the altar of the Saints, oil from lamps hung in holy places, water in which the coverings or wrapping of relics had been boiled, holy graves, etc. The list is almost endless. Some of the bones of the saints that have been responsible for myriads of cures have been shown by anatomists to have been taken from animals, not from the saints.

For hundreds of years in Europe, touching relics was a sovereign remedy for almost everything. If people were healed by touching the garment of Jesus or of Paul, why should they not enjoy miraculous healing by touching the garments or some other object belonging to some other saint? Any accessible fetish was relied upon. Even today there are thousands who journey to Lourdes in France, Malden in Massachusetts, and to the shrine of Anne de Beaupre in Quebec to be healed, while in America alone, thousands of candles burn before shrines for healing.

It is interesting to learn that the grave of St. John the Evangelist exuded a sort of white manna, which, owing to its wonder-working curative powers, was distributed all over the world. A similar product was derived from the grave of the Apostle Andrew on the festival day of the saint. A precious oil scented like nectar was also recovered from the "resting" place of this same saint. The Christians were more superstitious than their Pagan predecessors. The sacred pharmacopoeia of the Middle Ages teemed with remedies and these were extensively employed in Europe. I need hardly add that the practices that grew out of this cult of relics, which are but evolutions out of temple sleep, have by no means been abandoned, even today; superstition dies hard; indeed, it has to be repeatedly killed. With all of this emphasis on miracles and saintly relics, the modern hospital owes its origin to the church and not to the medical profession.

The chief competitors of the monks in caring for the sick were the alchemists, who, in addition to seeking for a means of transmuting the base metals into gold, sought to compound a universal medicine. Alchemy laid the foundation for the mineral drug system that has so long held sway. It was mingled with astrology and magic and, while it introduced a number of mineral drugs into what was called medical practice, alchemy never abandoned the herbal practice. It was alchemy rather than the monks that triumphed after the Renaissance. It is necessary to add that the monks had completely ignored hygiene in their care of the sick and that the alchemists did the same. The expriest, Emmett McLoughlin tells us in his book, *American Culture and Catholic Schools*, that he received no education in hygiene in the parochial schools and seminaries he attended in this century in California. Neither the monks nor the alchemists had any valid conception of the cause of disease and neither of them sought to provide the basic necessities of organic existence.

It was not until the ninth century that a medical school was established at Salerno, Italy. It was at this school (at a later date) that the degree, Doctor of Physic, was first conferred upon graduates. Salerno turned out few physicians, so that the people of the Middle Ages in Europe were without the doubtful services of the profession. Physicians, never numerous at any time in history, until very modern times, were very scarce in the Middle Ages and those who did exist were devoted to Galen and his four humors. Some of them wore short robes and others wore long robes, but they were as powerless in the face of the suffering of the people of the time as a feather in a whirlwind. The medical man of the Middle Ages had a knowledge of herbs, astrology and algebra; he knew little anatomy, no physiology, no pathology and little else that could help him in understanding the needs of his patients. He had no knowledge of diagnosis and persistently ignored hygiene.

The school at Salerno was long the only medical school in Europe. In the 11th, 12th and 13th centuries it attracted students from all parts of Europe. Its teachings were based largely on the teachings of Hippocrates and Galen, but it neglected the teaching of anatomy. Its faculty is said to have had "considerable knowledge of drugs." It gradually declined after the 14th century, and was dissolved by Napoleon in 1811. In the 12th century a medical school was founded at Montpellier in southern France. By the middle of the century it had acquired a reputation second only to that of Salerno. It is said to have "maintained its former high rank after the 14th century." Singer's researches have revealed that the medical schools of the Middle Ages were founded by Jewish missionaries of Moorish science. All of this only means that they brought the Hippocratic-Galenistic-Moorish mishmash into Europe and introduced it there.

These two schools opposed each other, the one at Salerno defending Galen, the one at Montpellier opposing him. The war of words and angry disputations was long, neither school seeming to gain any ascendancy or advantage over the other. Then it was discovered that Galen had made mistakes in his anatomical descriptions of the human body (he had dissected animals only) and his infallibility was exploded. His disciples, who had so strenuously maintained the divine origin of his works, acknowledged slowly their error and, in a short time the world field of medical science was open to invention and the cupidity of medical men was given free reign.

In his *Science for the Citizen* Hogben says that, as in ancient times, so in the Middle Ages, "the medical profession was exclusively concerned with the well-to-do." Again: "In the Middle Ages the trained physician and surgeon was still a prerequisite of the rich. The common people of England enjoyed the blessings of unrestricted private enterprise, until the Royal College of Surgeons received its charter from Henry VIII. Thenceforth the barber's operations were confined to the scalp." This was the beginning of the creation of the virtual monopoly of the care of the sick that has slowly evolved. Hogben adds that during this period, "medical services were the exclusive prerogative of the wealthy," and that it was not until the 17th century that medical "services" were extended to the general population.

During the Middle Ages, especially from the eighth to the twelfth centuries, Europe was sunk in the depths of a dark night from which it has not yet fully awakened. Some of our professors have endeavored to show there never was a Dark Age in Europe, and that the church of Rome did all that any agency could have done to keep learning alive. In spite of these efforts, there was a real dark age, and the Church was chiefly responsible for the blotting out of learning. If we place the vision of Pagan loveliness and refinement that existed in Moorish Spain against the background of filthy, ignorant, oppressed

and exploited Christian Europe, this would be enough to expose the professors and to make Christians hang their heads in shame. A real dark age did succeed the break up of the Roman empire and its veneer of Greek civilization; a new world did emerge with the Renaissance.

Speaking of women and girls of classical Greece, Prof. Seltman says: "They lived a long time ago and yet resemble our women. Something, however, quite alien to female humanity, and therefore to humanism, intervened for centuries and affected a change in the physical as well as the mental characteristics of Western European woman and man." It is to this alien something that Europe owes its loss of knowledge of hygiene and the ultimate triumph of the poisoning school. It is not merely that during these centuries "the way of life fostered misogyny and the female form was denounced as something shameful," to again quote Seltman, but that man was also taught to despise his body and that it was necessary to ruin his body in order to save his soul. Although the doctrine was revived that sickness is a punishment sent by God Himself, the monks were not long in conceiving the idea that God could be cheated by resort to the pills, powders and potions that they made from the poisonous herbs they grew in their physic gardens. The long reign of anti-naturalism had succeeded in doing what the physician had not been able to do: It destroyed the people's faith in the primitive ways of life. The triumph of antinaturalism was, then, more the outcome of the work of the new priesthood than of the druggers. The new priesthood condemned the body and exalted the soul. One of its founders had said, in speaking of food, "it is not what goes into the body, but what comes out of it that defiles a man." Another of its founders had declared that "exercise profiteth nothing." A Christian emperor had suppressed the Olympic games. Bathing was declared to be sinful and the magnificent public baths the Romans had built throughout the empire were destroyed. Indeed, all attention to the body was frowned upon. It taught a doctrine of "total depravity," while its otherworldliness led to neglect and abuse of the body. It may well be doubted that the medical profession, without the aid of the new priesthood, could ever have succeeded in divorcing man from the sources of his existence.

Finally, European man, awaking from his long fever-dream, began to think again and the fires of persecution were lighted to burn heretics. Four and a half centuries ago the Renaissance marked the beginning of a new era and a resumption of man's quest for knowledge. The intellect of man had for centuries slumbered under the fetters of theological bondage and had appeared satisfied to believe ghost stories and impossible legends of the saints. Suddenly a new day dawned and he began again to study nature. Astronomy, geology, chemistry, physiology, biology, and other branches of science flowered. Man prosecuted his inquiries with unwearied zeal.

Alas! In medicine he remained content to be tied to the dead hands of the Medieval past and to cling to dogmas that were as false as they were fatal. It was alchemy rather than the monks and primitive hygiene that triumphed after the Renaissance. The alchemic art had been transferred from Arabia to Europe and, with the break up of the Feudal system and the invention of printing, alchemy and its offspring, chemistry, became the ruling idols of the men of medicine. The system of medicine that emerged was all drugs and no hygiene. Men learned to place their trust in poisons; they did not regain their ancient trust in the normal ways of life. Except for the brainwashing of the Middle Ages, and the forgetfulness this produced, perhaps there would never have been a medical profession as we know it today. The incredible reliance post-Dark Ages man placed in the healing power of poisons reflected a mind straight-jacketed by long anti-natural conditioning.

Soon the new world became notorious for its abandonment of things natural and its acceptance of the creeds of the machine and the chemist. Here, however, we are interested, primarily, in what had happened to the human mind during the Dark Ages. The profession of leechcraft had found it practically impossible to divorce the people from their reliance upon the normal ways of life, both in health and in sickness. But during the Dark Ages man was taught to depend on the saints, god, prayer, relics of the saints and the herbs of the monastery garden. Thus it was that, with man fully divorced from the pristine ways of life, he was easy prey of the new cult of poisoning that arose.

It was not until the Renaissance that the study of human anatomy was revived. Leonardo de Vinci and Vesalius soon dethroned Galen and set the stage for the revolt against his infallibility. The modern study of anatomy owes its beginnings more to the artists, who sensed the need for such knowledge in their work of portraying the human body, than to the medical profession. Indeed, Italian art made anatomy a live subject. The revival of anatomical study made no improvement in medical practice, but it did destroy the barrier to speculation and experiment. With Galen out of the way, the profession could get out of the ancient rut.

There entered upon the medical stage at this time one of the most pompous charlatans of all time. Paracelsus (1493-1541), an alchemist, astrologer, necromancer, physician, and hater of women, who had been made a eunuch in his early life, by his bold pretensions and audacious condemnation of his predecessors and contemporaries, shook the medical world to its foundations. He entered the war against Galen and was instrumental in introducing a number of mineral drugs into medical practice. His chief contributions to medical practice, however, were mercury, antimony and opium. He declared the works of Galen and others of his predecessors to be valueless, because he had discovered the elixir of life, and publicly burned them. It must be

admitted that he did not exaggerate the worthlessness of the works he burned; if only he had recognized that his own writings were equally puerile, how different medical practice might have turned out!

What must have been the state of medical knowledge when the profession permitted Paracelsus to proclaim that the human body is composed of three elements—salt, sulphur and mercury? He says, in explaining why he became a medical reformer: "Since I saw the doctrine accomplished nothing but the making of corpses, deaths, murder, deformity, cripples, and decay, and had no foundation, I was compelled to pursue the truth in another way, to seek another basis, which I have attained after hard labor." There is no doubt that he correctly describes the medical practices of his time, but when we contemplate the harvest of death and deformity that resulted from the mercury practice alone, we are forced to the conclusion that Paracelsus was responsible for more suffering and deformity than all of the physicians of the ages from Hippocrates to his own time. There was no medical science when he was born, there was still no medical science when he was killed—murdered, it is thought, by some of his medical colleagues.

Sydenham (1624-89) was called the English Hippocrates and the Father of English Medicine. He was the author of differential diagnosis and was, for a long time, one of the great men of medicine. His writings are filled with prescriptions for many diseases and what characterizes these prescriptions most is the great number of articles which enter into them. Take this famous remedy for gout, as an example:

"Take of sarsaparilla, six ounces; sassafras wood, china root and shavings of hartshorn, each two ounces; licorice root an ounce; boil them together in two gallons of spring water for half an hour; afterwards infuse them upon hot ashes close covered for two hours; then boil them until a third part of the liquor is exhaled; and as soon as it is taken off the fire, infuse therein half an ounce of aniseeds for two hours; lastly, strain off and let rest, till it becomes clear, and put into bottles for use."

Sydenham did not advocate total abstinence in gout, but he did advise against getting drunk. He said: "As to water alone, I esteem it crude and pernicious, but young people may drink it with safety." Why it is crude and pernicious for all save the young is a medical mystery, but the medical profession was long prejudiced against water, both as a drink for fever patients and as a medium in which to bathe.

For quincy or inflammation of the tonsils and larynx Sydenham prescribed copious bleeding from the arm, followed by a gargle composed of several of the most unsavory substances. Next morning, unless the fever and difficulty in swallowing were abated, the bleeding was to be repeated, and still again, if the disease persisted.

The third day, blood-letting may be used and "a large, strong blister plaster applied between the shoulders." In smallpox, a disease in which he acquired great and long-lasting reputation, he advised taking nine or ten ounces of blood from the patient in the first three days. At the same time emetics were to be given and beer was to be taken until the eruption was out.

But Sydenham was a piker. His treatment, indeed, has been described as expectant and mild. Let us look at some of the remedies carried in the *Dispensary of the Royal College of Physicians*, which was printed in London in 1754, nearly a hundred years after the publication of Sydenham's work. Here are the directions for making a broth known as *Jus Viperium*, which was given to convalescent patients: "Take a viper of the middle size with the skin, head, or entrails; of water a quart. Boil to about a pint and a half; remove all from the fire, and when the water is cold, if the viper is not a dried one, take away the congealed fat. Then take a chicken of the middle size, drawn, and the skin with all the fat taken off, and put it whole into the decoction while cold, set it upon the fire until it boils; then remove it from the fire, take out the chicken, cut the flesh of it in small pieces, which put again into the water and set over the fire; but as soon as it begins to boil up, pour it off, first having taken away whatever scum may have arisen."

Another prescription in the *Dispensary*, called the *Bezoardic Powder* was prepared as follows: "Take the compound powder of crab's claws, a pound; of Oriental bezoar prepared an ounce, mix them into a powder.

"To heighten the virtues of this powder it was originally directed to be made into pellets with the jelly of vipers. But this ceremony was omitted in the last pharmacopœa."

What are called the drugs of the Egyptians, especially those of animal origin, remind us of the ingredients of a witch's caldron. Robinson tells us that the Egyptians prescribed "flesh of lizards, blood of bat, womb of cat, dung of the crocodile, semen of the testicles of asses, vulva of dogs, milk of a lying-in woman." He says that "in time the race of man prepared seventy-nine remedies from the yena." For baldness, one prescription of the Egyptians consisted of writing ink and cerebrospinal fluid; another was composed of toes of dog, ripe dates and asses hoof; and the following ointment for parietal baldness, required a brave and enterprising apothecary: the fat of lion, hippopotamus, crocodile, goose, and Numidian lion."

As if to prevent any thought that the Egyptians belonged to some race other than the human, Robinson reminds us that if we open the *London Pharmacopœias* of the seventeenth century we find that "blood of bat and badger still persisted, and elements of many animals . . . our forefathers wrote volumes on the preparation of."

virtues of dung . . . the skulls of malefactors hanged in the moonlight, bee glue, el grease, wine of he-goat, viper's flesh, woodlice, wolf's intestines, momentum of the ram, saliva of a fasting man and secundines (all that remains in the womb after the birth of a child) of a woman, were officially recommended."

He then turns to the most popular French dictionary of drugs of the eighteenth century and finds that man was being employed as a medicine. He quotes: "All parts of man, his excrescences and excrements, contain oil and sal volatile, combined with phlegm and earth. Sull, brain, and calculus are employed in medicine, and are referred to in their proper places. Burning hair, smelt by patients, will counteract the vapors. Moss of a human skull, human blood, and human urine all have their uses in medicine. The saliva of a robust young man, taken when fasting, as an antidote against the bites of serpent and mad dogs. Wax from the ear is good against whitlows. Nails from the fingers and toes, given internally either in substance or infused in wine, make a good emetic. Women's milk is pectoral, good in phthisis, and useful to apply to inflamed eyes. Fresh urine, two or three glasses drunk during the morning fasting, is good against gout, hysterical vapors, and obstructions. It may also be applied externally in gout and skin complaints. Excrement of man can be applied in anthrax, plague bubos, and quinsies. Dried and powdered, it is recommended for epilepsy and intermittent fever. Dose, one scruple to one drachm.

Without realizing that he is doing so and without intending to do so, Robinson next reveals that we of today are also afflicted with what he calls "a credulity which is universal." He says: "The Egyptians, by their extensive use of animal remedies, became the forerunners of organ-therapy; much more testicular, ovarian, hepatic, adrenal and thyroid extract are consumed in the world today than when the Pharaohs were in power." He could have added that there are also much greater quantities of pathological products of sick animals and man—vaccines (pus), serums drawn from sick animals, antitoxins, toxinantitoxins, toxoids, convalescent serums, etc.—employed today than the Egyptians ever dreamed of. Human urine is still being prescribed, while outside the ranks of the medical profession it has been elevated to the rank of Water of Life.

When we think that spiders, snakes, mice, menstrual blood, the urine of bulls and goats, the dung of various animals, powdered mummy, ox-gall and a host of other animal substances have been employed in the treatment of the sick, as have, more recently, pus from infected cows, serums from sick animals, glandular extracts, liver extract, blood serum, and pus from boils, we get some idea of the verminous character of medical practices. The cochineal insect, the house fly, his cousin the cockroach, the lady bug, ants and many

other insects have been employed by medical men as medicines. Snake venom has had quite a vogue in recent years. Anything that is poisonous is used with which to cure the sick. The whole genius of the medical profession, in the past as in the present, seems ever to have been directed towards ways of taking life by warlike methods.

No new schools of practice arose during the Middle Ages, but with the opening up of speculation that the Renaissance ushered in, new schools arose in rapid succession. There came the Anatomists, the Neo-Hippocratic school, the Fermentationists, the Mathematical physicians, the Vitalists, the Solidists (Hoffmanites), the Metaphysical physicians, the Boerhaaveans, the Hallerites, the Semi-Animists, the Cullenists, the Brunonians, the Allopaths, the Homeopaths, the Chrono-Thermalists, the Physio-Medicalists, the Eclectics, and numerous lesser schools. It was this rapid rise and fall of medical systems that Thomas Jefferson referred to in his famous letter to Dr. Wistar, when he said: "I have lived to see the disciples of Hoffman, Boerhaave, Stahl, Cullen and Brown succeed one another, like the shifting figures of the magic lantern; and their fancies, like the dresses of the annual doll babies from Paris, becoming, from their novelty, the vogue of the day, and yielding to the next novelty their ephemeral favors. The patient, treated on the fashionable theory, sometimes recovers in spite of the medicine. The medicine therefore restores him, and the doctor receives new courage to proceed in his experiments on the lives of his fellow creatures."

However interesting it might prove to the antiquarian, it would be a waste of time to trace, minutely, the history of medicine through the centuries that succeeded the Renaissance up to the middle of the nineteenth century. Medical men admit that there was no science of medicine up to that time. Suffice it to say that theory arose upon theory and hypothesis was piled upon hypothesis until one could search for ages through the accumulated rubbish without finding a single truth or a well established fact. The theories of disease, however varied in appearance, from Hippocrates and Galen to the nineteenth century, remained fundamentally the same. The humoral pathology was subscribed to by all and the most virulent poisons were prescribed as the proper remedies for disease. Following the Renaissance patients were bled, blistered, purged, puked, mercurialized, narcotized, stimulated, and dosed with brandy and quinine until they were wrecked or killed. It is noteworthy that there was very little classification of disease until the eighteenth century and patients were dosed indiscriminately.

Whatever has contributed to the superstitious reverence which people have for the school of poisoning, we cannot overlook the fact that they do reverence this school of charlatanry. This superstitious reverence for the men of medicine and their evil practices was greatly enhanced during the three centuries that preceded Harvey's discovery

of the circulation of the blood. Medicine has had and still has a powerful ally in the ignorance and fostered delusions of the people themselves. Goethe said that there is nothing more terrible than ignorance in action and a candid glance at man's past behavior in relation to the medical profession will fully confirm this statement.

In spite of the fact that the theories and practices of the many schools of medicine all revolved around drugs as their pivot and that, even after physiological science had made considerable advance, these poisons remained the dependence of the physician; man's instincts continued to rebel against them and it is still continued to be necessary to hold the nose of infants and young children to force them to open the mouth so that the drug could be forced down them. Servetus is credited by medical historians with having been the first to employ vehicles, that is, pleasant-smelling and sweet tasting ingredients, in which to hide the obnoxiousness of their poisons, but this is a mistake as we have already seen that resort to honey for this purpose was had in ancient times. During the Civil War a French physician revived the vehicle practice. It is widely used, although physicians prefer today to bypass the senses and shoot their poisons directly into the blood and tissues by means of a hypodermic syringe.

Late in the last century, another charlatan, as much of a showman as Paracelsus and not a physician, Louis Pasteur, gave the profession the bacterial etiology. They seized upon it with avidity for they had no satisfactory theory of the cause of disease. There followed a long period of search for the experiments with vaccines and serums. Many hundreds of these have been tried and they have all failed. Success is claimed for a few only, but these are commercial claims, not facts. With the discovery of the importance of the ductless glands and their hormones, there followed the effort to find a gland extract with which to treat every so-called disease. These failed despite claims for success of a few such extracts. Then, following World War I, there came in rapid succession a series of near-panaceas. First there was artificial fever treatment which bid fair to become the universal medicine. This was followed by snake venom, a close competitor of fever therapy. Frozen sleep promised to be even better than fever therapy but rapidly passed away.

Like a bolt from the blue there flashed across the dark skies one fine day the famous Elixir of Death—the sulfonamides. For a few years this near cure-all maimed and killed its hundreds of thousands, to be succeeded by penicillin, which is still being used in a world-wide slaughter. It is maiming and killing its hundreds of thousands. Other anti-biotics have been found and are in use, but penicillin has been the most popular of these poisons. ACTH and Cortisone, from the glandular field, have enjoyed an extended vogue and are near-panaceas. It is largely true, however, that medicine staked it all on the

anti-biotics and lost. It has no place to go at present and is merely marking time while its researchers try to find another "wonder-drug" or "miracle drug" to supplant their present failures.

Vesalius tells us of the more fashionable physicians of Italy in the Renaissance, that, in imitation of the old Romans, they despised the work of the hand and "delegated to slaves the manual attention they judged needful for their patients." The physicians merely stood "over them like architects." All the rest "who practiced the true art of healing," soon followed the fashionable physicians and "gradually declined the unpleasant duties of their profession." He says that "they quickly fell away from the standards of the doctors of old," and that "methods of cooking, and all the preparation of food for the sick, they left to the apothecaries; manual operations to barbers." We need only add that they have not changed a great deal since, even to the extent, as Vesalius says of the medieval physicians, of not "abating any of their claims to money or to honor."

Medicine, in its true historical sense, began with Hippocrates, hence it is about twenty-four to twenty-five hundred years old. The period of time during which medicine has existed is but a second on the clock of man's long day. It may be said to have passed through four stages in its evolution, none of the stages being well demarcated. Without attempting to give names to these stages, they were:

The First Stage: Which began with Hippocrates and lasted until the Dark Ages settled over Europe. Although several schools of medicine arose during this period, medicine continued relatively mild and clung to the ancient hygienic practices.

The Second Stage: Which was an Arabian stage, during which Europe slept. The Arabian school was largely Hippocratic, and employed hygiene, but added to the drugs used. No new schools arose during this period.

The Third Stage: Beginning with Paracelsus and lasting until Pasteur. This may be denominated the chemical stage, as the effort to restore health by chemotherapy was dominant and hygiene was rejected. Many new schools of medicine arose during this period.

The Fourth Stage: From Pasteur to the present, a period during which the various schools of medicine either merged or perished, so that but one is left. This stage witnessed the triumph of the bacteriological approach to disease and the forcing of hygiene upon the profession despite its stubborn resistance.

From ancient Sumer to Alexandria in Egypt is not a great distance as we measure the surface of the earth; but in time, it was a much longer span. In this time, man gathered much knowledge and laid the foundation for a number of the sciences. From Alexandria to the present he has made great progress in the accumulation of knowledge. In mathematics, in astronomy, in chemistry, in physics, in physiology,

in biology, in geology and in other fields of science, he has progressed astoundingly. In medicine he has marked time or chased his tail around the same old gooseberry bush, not because he has not devoted time and energy to his investigations in this field, but because his mind has been tethered to the past. He has refused to give up time-honored superstitions that have prevented progress.

MEDICINE IN THE MIDDLE AGES

Chapter 24

No precise date can be provided for the time when Europe's cultural calamity that we know as the Dark Ages set in. With the downfall of the Roman Empire and the increasing power of the western church, a gradual change took place. Soon an age of darkness settled over Europe and there came a revival of the ancient and far from dead idea that diseases are due to evil spirits and to the wrath of God. The sick were bewitched, possessed of demons and the insane were chased like wolves through the woods.

In order to understand what happened to medicine in the Dark Ages, it is necessary that we understand that from Hippocrates to the beginning of the era of darkness, relatively few physicians were turned out and these confined their attentions almost exclusively to the rich. The common man had no confidence in him and could not have engaged his doubtful services if he had desired. It is further necessary to understand the attitude of the Church towards medicine during this period. In Mohammedan countries, where the Church had no influence, Hippocratic medicine was cultivated, but modified very little. What medicine existed in Europe was supposed to be Hippocratic, but it degenerated into the worst form of charlatanry.

In the fifth century A.D., St. Augustine said, "All the diseases of Christians are to be ascribed to demons, chiefly do they torment the fresh baptized, yea, even the guiltless new-born infant." Firmly convinced that disease was caused by demons, they treated the sick in the churches, their means of care being prayer, exorcism, laying on of hands, holy relics, church sleep and similar revivals of the ancient magic means of care but with no attention to hygiene. Under the sway of the church, it was taught that smallpox was an infliction from God, the preventives were prayer, incantations, charms and sacrifices of animals and even of human beings with which to propitiate the wrath of God. Haggard quotes a Massachusetts clergyman as saying at a much later date, that "sickness is in fact the whip of God for the sins of man." In the Middle Ages a Roman pope issued a bull excommunicating and anathematizing both the plague, the Turks and the comet supposed to have brought the plague.

Haggard says: "When the Christian religion came in, the influence of its mysticism slowly forced out these measures (he refers to the drugs of the Hippocratic craft and the hygiene of the ancient Greeks), and treatment returned once more to faith healing. For thirteen centuries faith healing maintained its ascendancy. A form of drug treatment persisted however, and about the time of the

Renaissance its use increased extensively. Religious forms of faith healing were slowly discarded but hygienic therapy was not at once revived. The drug treatment which thus came in was not a rational treatment. The drugs which were used were for the most part useless and some were actually harmful." Then, instead of telling the truth about the revival of hygiene and sanitation, he makes the statement that "as knowledge gradually accumulated and formed what we now call science, hygienic therapy slowly returned and drugs were relegated to a subordinate position. This state of affairs was reached only in the last part of the nineteenth century." From where I sit, this looks like a deliberate attempt to hide the real facts from the reader and to credit his profession with a hygienic revival, whereas the profession actually opposed and denounced it.

Sigerist says that "ancient medicine was still alive" in the beginning of the nineteenth century. The Hippocratic writings were still being studied as sources of learning. Medical men were rarely educated men and their medical education was a tragedy. In his work, *An Introduction to the History of Medicine*, F. H. Garrison describes the French physician of the seventeenth century as "a sterile pedant and a coxcomb, red-heeled, long-robed, big-wigged, square-bonneted, pompous and disdainful in manner, making a vain parade of his Latin." Cumston says, "After Galen, and during the decadence of the Roman Empire, therapeutics fell to a low level" (implying that it had previously existed on a high level, which is not true), and the reader will remember that Aetius of Amida (502-575 A.D.) treated his patients by incantations. Without admitting that therapeutics had reached any high level before or at the time of Galen, we must recognize the fact that during the Middle Ages there was a return to magic and incantatory rites. Sigerist says, "Medicine progressed relatively little in the thousand year period of the Middle Ages." The question is justified: Did it progress at all?

The Church was not alone in holding to theological views of disease in the care of the sick. Sigerist says, "medieval doctors taught in terms of theology and...a medicine based on natural sciences developed in the West from the Renaissance on." That a new medicine originated about this time is certain; that it was based on natural sciences is not true, as Haggard bears witness. Sigerist himself says, "medicine is not a natural science, either pure or applied."

Cumston says, "in the Middle Ages the theological phase of medicine is still more accentuated," and adds: "During these ages medicine was inflicted with theological chemistry, the belief in the stars, sorcery and demonical influences." Of these Middle Ages Sprengel truly remarks: "God again became the immediate effectual cause of all phenomena and physics became transformed into true theosophy." During these ages Europe was overrun by sorcerers and

traveling philosophers. The functions of the organs of the body were explained by the pretended relationship between the viscera and the celestial intelligences, just as the Pagans before them believed. The few physicians that existed in the Middle Ages in Europe did not hesitate to accept theological explanations for disease. Morbid phenomena in particular they regarded as due to supernatural causes. The Devil was accepted by the physician as a cause of disease. Physicians not only dabbled in alchemy but they inspected the stars.

Among the Arabs were many Jews who cultivated medicine and alchemy. In Europe during the Middle Ages, the Church forbade the employment of Jewish physicians because they were pagans. Walker says that everybody realized at the time that the Jewish physician was the only one worth consulting, that he and his Greek colleagues were the only ones that had retained any knowledge of Hippocratic medicine. The difficulty was overcome, he says, by means of an excellent compromise—the Jewish physicians were banned and abused in public, as enjoined by the Church, but every monastery is said to have possessed its own Jewish physician carefully hidden away from the eyes of the world, but consulted in secret by the monks and abbots when they felt in the least indisposed. This is probably a myth that is repeated with the intent to create the tradition that there was a medical profession in Europe in the Middle Ages.

The existence of a medical profession at that time, had there been one, could hardly have made much difference to the people of Europe, not alone because physicians were so few and so scattered, and their prices were so high that the impoverished people could not afford their services, but for the more important reason that they had nothing of value to offer the sick.

Such remarkable medicines as urine, mice, dirt, rats' tails, the sperm of animals and a lot of horrid mixtures were administered to the sick. Toads boiled in oil was a favorite prescription for fevers of various types. The herbal and animal remedies employed to drive out the disease were hardly less absurd than the leapings, howlings, and rattle-shakings of the medicine men of the American Indians.

In *Devils, Drugs and Doctors* Haggard says, "In the Middle Ages the apothecaries of Europe complained that most of the crocodile dung they received from Egypt was adulterated by dishonest traders. Excrement and urine had a notable place in medicine. Pliny speaks highly of the medicinal virtues of menstrual blood.: Urine was an old remedy, subject to occasional revival... Used as a mouthwash for toothache...it was said that the urine of a faithful wife was effective in the treatment of sore eyes..." It would be interesting to learn if the wife was adjudged unfaithful, should the urine fail to cure the sore eyes.

Haggard lists unicorn's horn as "another highly prized remedy of the Medieval and Renaissance" periods. It was ivory derived from

some source and it brought an enormous price. Haggard adds: When Robert Boyle expurgated the pharmacopoeia of its most dubious remedies he nevertheless included in the revised list the sole of an old shoe "worn by some man that walked much," which was to be ground up and taken internally for dysentery. Insects, toads, and old shoes were the least objectionable of the many remedies of that age. In addition to menstrual blood beneficially affecting the sick, it would kill insect pests at a distance and even quell a storm at sea. Haggard recounts that when Cardinal Richelieu was on his deathbed a woman physician, whom he designates a charlatan, prescribed for him a mixture of horse dung in white wine, and the Cardinal drank it.

There was no discernible difference between the "trained physician" and those whom they called charlatans. They were all in the game of curing diseases and they were all making money out of their patients. They were all engaged in treating the sick with worthless "remedies" and with foul mixtures that were worse than anything the priests and monks might have prescribed. They were all equally ignorant, and they were all a gang of rascally pretenders. It is doubtful if there was an honest man among them.

In Byzantium, where Greek civilization lasted longer after its eclipse in the West, the four great centers of learning were Athens, Antioch, Constantinople and Alexandria, but here also, medicine was of a religious character. In Byzantium, as in Rome, the saints were believed to possess power to heal specific diseases. Thus St. Artemis healed genital diseases, St. Sebastian healed pestilences, St. Job healed leprosy. Ibanez says of medicine in Byzantium: "In a society that believed neither in drugs nor in the study of the sick patient, there was small opportunity for the physician." In the sixth century the Emperor Justinian closed the medical schools of Athens and Alexandria upon demand of the Church. Centuries were to pass before the establishment of another medical school. This was in Italy.

The school at Salerno, where medicine was taught, was founded in the twelfth century at the latest, although the actual time of its founding is not known. It was famous for its repository of Greek and Roman medicine. To this was added Arabic medicine by Constantine Africanus. They did not study medicine, but physics.

Physicians of the Middle Ages were set, by their high office, above manual labor, hence they eschewed surgery. What was called practical medicine, to distinguish it from the theoretical gibberish that was taught in the universities, long remained an inferior art, the province of manual workers such as barber-surgeons and army doctors. These outsiders, manual workers, barber surgeons and army physicians were held in contempt by the university professors. In the universities, medicine was entirely a matter of book learning, special attention being given to the ancient (classical) texts.

Before we come to the Renaissance, let us look briefly at the care provided for the sick by the clergy. So far, at least as Europe is concerned, it is generally admitted by medical historians that little or no progress could have been made in medicine during the Middle Ages. They say that "medical research was at an end, the little knowledge of anatomy and physiology that had existed was forgotten... superstition crept back again into medicine so that incantations and magical charms resumed their former place in the treatment of disease." Walker makes the unwarranted assertion that "sick men and women have always sought advice and remedies for their illnesses, and that it was inevitable that in the absence of a medical profession they should apply to the priest for treatment." It is true that Europeans went to their priests throughout the Middle Ages when sick; it is true that there was practically no medical profession in Europe through this era, but it does not seem to be true that sick men and women have always sought advice and treatment. It is also true, as he says, that so customary did it become for the sick to apply to the priest for succor, that Bishops, Abbots and even Abbesses were forced to prescribe some form of treatment for those who sought their help.

It is hardly true that the ecclesiastical dignitaries were forced to supply treatment for the sick, for they both encouraged the people to believe that the priest, by the exercise of miraculous power, could restore the sick to health, and discouraged reliance upon the physician as a variety of infidelity. They taught that the saints and relics and shrines of the saints had healing power. Indeed, they did a thriving business in cures. They revived the ancient view of the supernatural origin of disease and the resort to supernatural agencies for cure.

As diseases were due to demons, the monks and priests were the logical caretakers of the sick. They treated disease with prayer, exorcism, laying on of hands, penance, and the employment of holy relics. The apologists for the drug system, trying to explain the "successes" of these religious healers, say that "most diseases cure themselves." This is a ridiculous statement, and reveals a total lack of conception of the true nature of the healing process.

Many monks found a profitable trade in more mundane forms of treatment. Bishops, abbots, abbesses and monks formed a kind of medical profession. Equipped with a smattering of Galen, a liberal borrowing from the cabalists, a little alchemy from Islam, and a recourse to Jewish physicians, which some monasteries are declared to have kept hidden, a collection of incantations and magical amulets, and charms, they treated the sick. This practice became so extensive that in 1139 Pope Innocent III barred priests from dispensing medicines. This did not end the practice, and thirty years later Pope Alexander III threatened churchmen who attended medical lectures with excommunication. St. Bernard, who founded the Cistercian Order, not only

forbade the monks of the order from studying or practicing medicine but from having any recourse to medical treatment for their own ills. He declared: "To buy drugs, to consult physicians, or to take medicines, befits not religion." At a later date (1163) the Edict of Tours condemned surgery.

Older medical texts were sometimes illustrated with diagrams showing how the signs of the zodiac controlled the various organs of the body. During the Middle Ages these "pagan" signs were removed from medical treatises and replaced by names of those saints who had taken over the duties of the old pagan gods. Saint Blaize presided over the functions of the throat; St. Appolonea, over the teeth; St. Lawrence, over the back; St. Bernardine, over the lungs; St. Erasmus, over the abdomen. There were also saintly patrons for the various illnesses as well as for the functions of the organs, while other saints had power to remedy certain diseases, saints to whom the sick man preferably addressed his prayer when he had a certain disease.

Haggard says: "the parings from the nails of St. Peter were unusually prolific, and an amazing quantity of them found their way into Europe..." One monastery in Jerusalem once offered for sale what was represented to the gullible as a finger of the Holy Ghost, and another monastery had a feather from the same source. The competitive spirit, he says, spread to the church of St. Ursula, and a whole cemetery was despoiled to cover the interior walls of the monastery with the relics of St. Ursula and her eleven thousand virgin martyrs. The fact that many of these bones were unquestionably those of men did not affect their curative value.

Walker says that the publication of favorable results obtained in an abbey increased its reputation and caused more patients to flock to it. He adds that considerable rivalry developed between the different monasteries and churches with respect to the various holy relics they possessed. This led to the effort to acquire some advantage over other institutions by securing possession of more effective relics. In the twelfth century, the Shrine of the Cathedral of Cologne claimed to have secured the skulls of the three magi who followed the star from the east and worshipped the infant Jesus. Immediately the Church of St. Gereon met this challenge by publishing the claim that it was in possession of the relics of St. Gereon and his band of martyrs. The most cherished of the relics were pieces of the cross on which Jesus was crucified or one of the nails which had been driven through His hands or feet. Obliging dealers in the Holy Land did a thriving business selling "relics."

If we assume that a small percentage of these relics were genuine, the fact still remains that the vast majority of them were fakes. It will strain the ingenuity, both of those who believe in the healing powers of genuine relics and the medical profession who admit

that recoveries did frequently occur, to explain why the fake relics were as efficacious as were the true ones. Fake relics, like false gods, seem to have, so far as human observation can discern, healing powers equal to those exerted by true relics and true gods, a fact which significantly points up the fact that healing is accomplished by something more universal and more fundamental than the relics.

Under the Church, the older supernatural views of disease were revived and the priest supplanted the physician at the bedside. Nobody doubts that millions of patients recovered from their illnesses under the ministrations of the priests. Efforts to explain these recoveries often take ridiculous directions.

We read and hear much of the hospitals (hospices) established by the church during the Middle Ages. They were not so much for the care of the sick as places where weary travelers could rest—guest houses for the accommodation of pilgrims. Such houses were later established for the housing of orphans and still later to house the aged and blind. The charity hospitals that were founded in the Middle Ages were for the destitute sick. Medical care was not administered in them. A vivid pen picture of them will help us to understand one important reason why the death rate in them was so high.

Max Nordau thus describes the hospitals: "In one bed of moderate width lay four, five or six sick persons beside each other, the feet of one to the head of another; children beside gray-haired old men; indeed, incredible but true, men and women intermingled together. In the same bed lay individuals affected with infectious diseases beside others only slightly unwell; on the same couch, body against body, a woman groaned in the pangs of labor, a nursing infant writhed in convulsions, a typhus patient burned in the delirium of fever, a consumptive coughed his hollow cough, and a victim of some disease of the skin tore with furious hands his infernally itching integument. The patient often lacked the greatest necessities. The most miserable food was doled out to them in insufficient quantities and at irregular intervals. The nuns were in the habit of feeding with confectionery those patients who seemed to them pious enough, or at least who reeled off their rosaries with sufficient zeal, but the body exhausted by disease required profusion, save when it was brought to them by wealthy citizens from the city. For this purpose the doors of the hospitals stood open day and night. Anyone could enter; anyone could bring what he wished; and while the sick on one day might be starved, on another day they might very likely get immoderately drunk and kill themselves by overloading their stomach. The whole building fairly swarmed with the most horrible vermin, and the air of the morning was so vile in the sick wards that the attendants did not venture to enter them without a sponge saturated with vinegar held before their faces. The bodies of the dead ordinarily lay twenty-four hours, and often

longer, upon the deathbed before they were removed, and the sick during this time were compelled to share the bed with the rigid corpse, which in this infernal atmosphere soon began to stink, and over which the green carrion flies swarmed. . .”

Contrast these Christian institutions for the care of the sick with those conducted by the Asclepian priesthood in ancient Greece and you will understand why the pagan gods were such better healers than were Jesus and the saints. Where bodily cleanliness, atmospheric purity, a sane plan of fasting and feeding and other hygienic factors were so carefully provided and supervised, the sick recovered in far vaster numbers than where these hygienic factors were totally neglected. Nobody got the patients drunk in the Greek temples; green flies could find nothing upon which to feed in these temples of hygiene.

The knowledge of the importance of drainage, which was known at least as early as 3,000 B.C., when there certainly was no medical profession, was forgotten in the Middle Ages. Even the houses in which the sick were kept were as foul as a sewer.

Although in medieval Europe priests “could minister to the body as well as to the soul” they were “forbidden by the canon law to shed blood even by way of remedy,” which can only mean that they were not permitted to practice bloodletting. Red was a mystical color, supposed to be as much resented by demons as it is now supposed to be resented by bulls. Red clothes were hung around the patient, especially the smallpox patient. Epilepsy was treated with a necklace.

The “sudden” appearance in the Middle Ages of epidemics which were known under the general description as “the plague”, were made up of many different symptom-complexes and were not always the black death. Even smallpox was not smallpox in more than a small percentage of cases. The ignorance and superstitions of the Dark Ages offer sufficient apology for such a spectacle as that of the Pope excommunicating a comet for its supposed malign influence in causing pestilence and plagues; but in these days of enlightenment in all departments of human knowledge, there is no excuse for our neglect of the laws of being, in our ways of life. In the fifth century the Orthodox Church deprived Nestorius, Patriarch of Constantinople, of his *see* for denying that the Virgin Mary is the Mother of God, and excommunicated him. In A.D. 431 the Council of Ephesus denounced the Nestorians as heretics and cut them off from communion with the Greek church. Nestorius and his followers migrated eastward into Persia, taking with them many Greek documents, among which were copies of the alleged Hippocratic writings and copies of the writings of Galen. It was in this manner that Greek medicine was introduced into the Near East.

Medicine among the Arabs was derived from the Persians who had, in turn, derived it from the Greeks through the Nestorians. Neither

the Persians nor the Arabs were compilers and transmitters rather than innovators, more famous for the enchanting gardens, redolent of exotic flowers and resonant with the murmuring of brightly tiled fountains of their cities, than for much in the way of scientific advancement.

The Arabs were devotees of astrology and alchemy and were noted for their polypharmacy. Like the Christians, they established hospices for the aged and destitute, which the medical historians convert into hospitals.

The Arabs added many new simples (herbs) to the pharmacopoeia and developed the art of pharmacy. Their pharmacies, adorned by blue-tiled fountains were centers for gossip, exchange of horoscopes, readings, and alchemic lore and the dispensation of herbs, honey, syrups, essences of flowers, poultices, plasters and aromatic waters. Saving the collection of superstitions and follies that constituted Greek medicine, the Arabs added to it chemistry, botany, pharmacy, and hospital management. They practiced bloodletting, both by venesection and cupping.

Among the Arabs and Jews, where clinical medicine found a home, the practice tended to become or remain a family affair, some of these medical dynasties remaining unbroken through two and three centuries. The knowledge and art was passed from father to son, as in the Hippocratic oath it is provided for.

It was in Alexandria, Bagdad, North Africa and southern Spain, where the Arabs held sway that mathematics, philosophy and medicine were cultivated while Europe slept. The Arabs were tied to the Hippocratic and Galenic traditions and did not add much to these. They did add a few drugs, but this was not a worthwhile achievement. They dabbled in alchemy and the rudimentary chemistry that later came into being, and were instrumental in introducing these into Europe. These fired the imaginations of European medical men, thus giving rise to the new medicine of the Renaissance.

RENAISSANCE MEDICINE

Chapter 25

History is a continuum. Periods, epochs and eras are contrivances created by man for his own convenience. Pre-history did not suddenly end with the dawn of history. In like manner ancient medicine did not suddenly end with the coming of the Dark Ages. These ages freely flow into each other without a break in continuity. The period from 400 to 900 is commonly called the Dark Ages, but it is well for us to understand that when light began to dawn not all fields of knowledge were illuminated at the same time and to the same degree. The time of awakening experienced by Europe is called the Renaissance and saw many advances in the arts and sciences and in human social conditions although much of the advancement made during this period was achieved by going back to a former state.

Although its origins may have been as far back as the twelfth century, the dawn of Renaissance is usually placed at the beginning of the fifteenth century, a fascinating and explosive time of man's social and intellectual evolution. The most significant things about the Renaissance, as Michelet has it, are the discovery of the world and the discovery of man. Perhaps the most dominant influence in this reawakening of man was the revival of pagan learning. Unfortunately, not all that was of greatest value in the classic world was immediately revived. It is just what we should expect of scholars that they should turn their attention first to the stars and to art.

During the Renaissance the intellectuals described themselves as sucking "like bees" at the honey of antiquity which had been transmitted to them by the culture of Islamic Spain. The Renaissance is said to have been the dawn of a new age in medicine. There was an unbroken continuity between Hippocratic medicine and Renaissance medicine. With all the experimenting and theorizing, there was no radical or revolutionary departure from old theories and practices.

Confirming this, Sigerist says that Medieval doctors thought in terms of theology and a new medicine based on natural sciences developed in the West from the Renaissance on. That a new medicine began at this time is certain; that it was based on natural sciences is not true. Sigerist himself says that "medicine is not a natural science, either pure or applied." He also says "Medicine progressed relatively very little in the thousand year period of the Middle Ages." In the seventeenth century medicine was still following Galen. Sigerist says that "ancient medicine was still alive in the beginning of the nineteenth century. The Hippocratic writings were still being studied as sources of learning." Medical men were rarely educated men and their medical education was a tragedy.

It will not be amiss to point out at this place that in the Renaissance period there was no natural science upon which to base a practice of medicine. Anatomy was only beginning to be studied whereas there was no knowledge of biology, physiology, pathology, chemistry and other sciences now deemed so important in the training of a physician. At Salerno, pigs were dissected in the eleventh and early twelfth centuries, and at a later date, the bodies of criminals. The *Fabrica* by Vesalius corrected some two hundred mistakes of Galen.

The great age of anatomy is said to have started with Modino de Luzzi in the fourteenth century. Ibanez credits the artists with changing the course of anatomy. He adds that Renaissance artists endowed medicine with a quickened perception of biologic man, and stimulated studious minds to observe the form and function of the human organism. It is the height of the ridiculous to say that the artists of the Renaissance, a rebirth of learning in Europe due to the fleeing of Byzantine scholars from the Turks who had captured Constantinople, contributed to the "advance of medicine" because they pioneered in the study of anatomy. Their contribution was to the advancement of biological science, not of medicine. Leonardo de Vinci was, perhaps, a greater student of anatomy (human) than was Vesalius, and he preceded him by several years.

The vagabond quack, Paracelsus, may be taken as representative of the whole medical profession. Arrogant and vain, boasting of knowledge he did not possess, he collected information from barbers, executioners, miners, bath keepers, midwives, gypsies, mountebanks, fortune tellers, brothel keepers and strolling players. He also dabbled in occult mysteries. This is all to say that he borrowed liberally from every source. Paracelsus probably never heard of the word medicine, at least he never called himself a medical man. He was licensed in physic and surgery and is said to have been proficient in both of these. Unlicensed men in those days were prosecuted and cast into prison for practicing physics without a license.

It was during the darkness of the Middle Ages, rife with superstition and fanaticism, that the most fantastic ideas of witchcraft, horoscopes, chiromancy and empirical panaceas for the prolongation of human life became widespread. The alchemists sought for and frequently found the Philosophers' Stone, by which the baser metals could be turned into gold, and the Elixir of Life, by which life could be made to endure for a thousand years. Paracelsus claimed to have found the Elixir of Life. It worked too, at least Paracelsus came within nine hundred and fifty-two years of his goal. He managed to live to the ripe old age of forty-eight.

As late as the middle of the sixteenth century the ancient doctrine of the elements (the four elements that made up the universe and the four humors that constituted the human body) was still being

taught in medical schools and by medical leaders, although the doctrine had been shaken somewhat by the alchemists, who had demonstrated that the earth is made up of several substances. Fernel, whose influence was great at this time, defended the doctrine of the elements in his works, *De Elementie*, *De Temperamentis*, and *De Funtionibus et Humoribus* and attempted to harmonize the theory of the four elements with the prevailing philosophical speculations of the nature of man.

Whatever else may be said of Paracelsus, his labors were of great effect in overturning the Galenic theories and practices, which had prevailed up to the end of the fifteenth and well into the sixteenth century. He set a high value on Hippocrates and the other ancient physicians, but despised the scholastic physicians and above all the Arabs. Medical theory in Paracelsus' day consisted in a knowledge of the four humors, and the practices were confined to bleeding, purging and vomiting.

Paracelsus attacked this doctrine with vigor and viciousness and together with Cardan, his most prominent student, promulgated the doctrine of *Signatures* according to which a medicament or any agent of nature revealed, by its external form and resemblances, the qualities with which it was endowed. The root of the orchid, because it is shaped like a testicle (*Orchid* is the Latin for testicle), was employed to treat diseases of that organ; the black spot in the flower, eyebright (euphrasis), because it resembles the pupil of the eye, was used for diseases of the eye. Under the influence of this stupidity, digitalis was tried for the heart, hepatica for diseases of the liver and many other drugs came into use in the same manner. (Since there is a vague resemblance between the nutmeg and the brain, it should be employed in mental disease.)

Paracelsus said that the "four elements" of Hippocrates and Galen, are nothing only because he desired to substitute the notion that only the essences are something—realities. It was his idea that all bodies contain three essential elementary principles—salt, mercury and sulphur. These may acquire different qualities when subjected to heat, cold, dryness, or moisture and are dependent upon an astral body or Archeus seated in the belly. Diseases are neither changes arising in the primal bodies nor organic lesions, as Galen had maintained, but are essences of real entities which enter into us, and are derived from the five principle causes—astral entities, poisons in food, natural entities controlled by the stars (he believed in astrology and thought that he could discover the imprint of God on plants and animals), spirits or demons, and acts of God Himself. His contributions to the advancement of medicine were his theory of morbid species and his introduction of mineral substances into therapeutics.

Whether we regard Paracelsus as a physician and genius, as some do, or as a magician and quack, as others do, we must recognize

that he taught a lot of nonsense and introduced into medical practice some very damaging treatments and deadly drugs. In the fifteenth century strong efforts were made by the alchemists, of whom Paracelsus was an outstanding member, to connect medicine with the magic of the Kabbala, which fostered the belief in demons and sorcery. Numerous books appeared on such medical subjects as demonology, necromancy, astrology, and chiromancy. The alliance of medicine, alchemy and the Kabbala was completed by Paracelsus, who contended that a physician should be alchemist, theosophist, and magician all in one neat package. Paracelsus acquired his medical knowledge largely by intuitive processes, finding the methods of study too slow. By certain more or less mystic processes he gained "absolute control of the demons" who would then obtain for him all that he desired. For him, signs of forthcoming events became visible in the fingernails.

Paracelsus was a firm believer in astrology and declared that "there is a star behind every process going on in man. All the forces of heaven have their corresponding activity in those parts of the body that are expressive of their powers." In more recent times, Rudolph Steiner said: "If one were to photograph a person's brain at the moment of birth and then photograph also the heavens lying exactly over the person's birthplace, the latter picture would be of exactly the same appearance as that of the human brain. As certain letters are arranged in the latter, so would the stars be in the photograph of the heavens."

As no one ever made such photographs it is obviously a mere assumption that the brain at the instant of birth is a replica in appearance of the heavens directly overhead at the same instant. Steiner was indulging in baseless speculation, but no more baseless than are all the other speculations of the astrologers.

There arose in the fifteenth century the idea that diseases had real material and objective existences and were represented in the nomenclature of the time by such terms as seeds of disease (*semina morborum*), morbid ethereal vapour, contagion, and a fifth essence of nature, which was additional to the four elements. In all of this notion about the entitative nature of disease, there was little that differed from the prior idea that diseases were evil spirits that worked their way into the body and set up housekeeping. The proper treatment was still poisons.

It may be well to point out at this place that the spice trade, one that helped to send Columbus on a westward voyage in search of a water route to India, was a drug trade. Spices were shipped into Europe from the East, particularly from India, not as condiments, but as medicines. Along with opium came aloes, pepper, Persian rhubarb, camphor, sandalwood and other spices used in treating the sick. The Dutch, the English and the Portuguese fought for control of the spice

trade and it has been well said that "torrents of blood were shed for the apparently inoffensive clove." These are but additional examples of the evils that have been introduced into human life by magicians and physicians. From the apothecary shop these condiments moved to the grocery store; from the physic cabinet, they moved to the food cabinet. No longer employed as cures, they are now thought to be essential to the enjoyment of food.

A short time before the birth of Paracelsus, Chaucer wrote his most famous work, which supplied us with some information about the state of physic at the close of the fourteenth century. In the Prologue of his *Canterbury Tales*, Chaucer says, "With us there was a Doctour of Physic." Pilgrimages to Canterbury had been fashionable since the epidemic of Black Death, at which time the survivors had journeyed to the shrine of St. Thomas to give thanks for their deliverance. Chaucer gathered his pilgrims, thirty in all including Chaucer himself, on the bank of the Thames. This is thought to have been about the year 1385.

Chaucer informs us that his Doctour of Physic kept what he had earned in the pestilence. He was well versed in astrology according to Chaucer, and knew all about surgery. He attended his patients at times of planetary conjunctions in order that he might apply his treatment at the right moment. He was always on the lookout for a favorable star or zodiacal sign. This story only reveals to us anew the fact that the physicians of the age prescribed according to the superstitions they had inherited from their predecessors.

Chaucer's Doctour of Physic was a humoralist, for

He knew the cause of everich maladye,
Were it hoot, or cold, or moyste or drye.
And where they engendered and what humour.

He must have been somewhat of a magician, for Chaucer tells us that

He kept his patient a full great deel
In houres by his magyk natureel.

John of Guddesden, Chaucer's Doctour of Physic, wrote a *History of Physic*. He was a professor in Merton College, Oxford, but Chaucer paints a rather sordid picture of the old rascal. Gilbert (the Gilbertyn of Chaucer), who died in 1250, has left us the following prescription for gout: "Take a very fat puppy and skin him. Then take the juice of a wild cucumber, rue, pellitory, ivy berries, juniper berries, euphorbium, castoreum, fat of vulture, goose, fox and bear, in equal parts, and stuff the puppy therewith. Then boil him. Add wax to the grease which floats on top and apply as an ointment. Or if you prefer, take a frog when neigher sun nor moon is shining, cut off its hind legs and wrap him in deerskin. Apply the frog's right leg to the left foot of the gouty patient and for certain he will be cured." I wholeheartedly

recommend these two remedies to herbalists and other believers in "natural medicines" or what our British cousins prefer to call "hedgerow medicine." Calder thinks that it looks more like a garbage heap, but then, Calder is a stickler for things scientific. He does not appreciate the simple things of "nature."

As evidence that no progress was made in physic during the Renaissance, I quote the following from Calder who describes the prescriptions of physicians of the time of Thomas Sydenham (1624-1689) as "like a collection of sewage." How fitting the description! But if people recovered health when treated with a collection of sewage, what was it that really restored them to health? Is this same restorative process still restoring the sick to health?

If people can be taught that healing is a biological process and not an art, then they can understand that whoever says he can cure disease is either a fool or a knave. Whoever believes him is very naive. Living organisms heal themselves and have no need for and cannot make use of so-called medicines or healing agents. There is no such thing as the practice of medicine. All pretended healers are frauds.

Like all charlatans, the doctors and practitioners of physic of the Renaissance period bewildered the people with pretensions and mystified them with superstitions. In his *An Introduction to the History of Medicine*, F. H. Garrison describes the French physician of the seventeenth century as "a sterile pedant and a coxcomb, red-heeled, long-robed, big-wigged, square-bonneted, pompous and disdainful in manner, making a vain parade of his Latin."

Ibanez credits Harvey with revolutionizing "medical science," although his discoveries did not even stay the tide of blood letting. We should never lose sight of the fact that the anatomical work of Vesalius and the physiological discoveries of Harvey had no immediate effect upon the practice of medicine. Indeed, the discovery of the circulation of the blood and the later discovery of oxygen and the importance of oxygenation failed to end the fatal practice of bloodletting. The practice even became more extensive after Harvey's discoveries. What is termed the practice of medicine has never been at any time in the past and is not now, based upon physiology.

Beyond discrediting Galen's knowledge of human anatomy, thus shattering his divine inspiration, which threw the door open to speculation and innovation, the work of Vesalius was a negligible factor in what occurred. Paracelsus, with his chemical theories and his denunciation of everybody who preceded him, (except Hippocrates) did more to shake the foundations of the older medicine than did Vesalius or Harvey. Galen's medicine was based upon the humoral hypothesis, which stemmed from Hippocrates, and was overrun with bleeding, purging, puking and other means of depletion.

With the exposure of Galen's errors in anatomy and the consequent collapse of his infallibility, the drugging system, which had marked time throughout the whole of the Medieval period, the way was thrown open to new theories and to new practices. In rapid succession during the Renaissance period there arose men of physic who are known to medical historians as system makers. Each of their systems amounted to a new school of physic, but none of them based their theories and practices upon physiology. Indeed, there was no physiology to use as a basis for theory and practice.

We shall here notice the chief of these systems of medicine (physic). An encyclopedia could be written about them but it would be largely wasted effort. From the twelfth to the fifteenth centuries, the care of the sick in those countries best known to us, was in the hands principally of the monks, whose leading resources were drawn mainly from magical arts, astrological superstitions and alchemical speculations. These offered no challenge to the craft of physic. The chemical physicians were the first to challenge the supremacy of Galen. Paracelsus belonged to the chemical physicians and it was largely due to his efforts that the system of Galen was overthrown.

It is noteworthy that the Anatomical Physicians introduced nothing original in relation to the theory and practice of medicine. Indeed, they were divided concerning the views of Galen, some of them defending, others attacking the views of the ancient physician.

During the seventeenth century there was a revival of the views and methods of Hippocrates. There now arose a group of physicians who were known as Fermentationists. Their leading doctrine was that certain fermentations in the blood and other fluids were the causes of different states of health and disease; certain humors were acid, others were alkaline. The "acideous" diseases required alkaline remedies and *vice versa*. They were really a branch of the chemical physicians.

The Mathematical Physicians came next. During the latter part of the sixteenth century mathematic science made great progress and this was seized upon in an effort to explain certain functions of the body on mechanical principles. Their practices had no relation to their theory. Mathematical physicians treated their patients with the drugs of the chemical and fermentation physicians.

The Vitalists now came upon the scene. Van Helmont, the originator of this system, triumphed over the chemical and mathematical sects. He proposed nothing new in the form of treatment, merely a new theory. The Solidists followed the Vitalists. This revolution in medical theory had no perceptible effect on medical practice. Next came the Metaphysical Physicians who, while laboring to apply the inductive method just popularized by Bacon, failed to make any changes in medical practice.

Boerhaave followed with an attempt to form and fashion out of the discordant materials of the medical systems of his time, a theory and practice which should combine the excellence of all systems. He failed, as have all those who have attempted an eclecticism. Herman Boerhaave was a Dutch physician of the seventeenth century whose puerile and shallow doctrines prevailed in the schools of Europe for more than fifty years, a fact that was due more to the energy and imposing language with which he promulgated his doctrines than to any science which they contained. So great was his following that Boerhaaveanism became a distinct school of physic, yet it amounted to nothing more than a repetition of the old fallacy of the eclectic that truth can be arrived at by selecting the "best" from among the other false systems.

Haller followed Boerhaave with new theories but with little effect on medical practice. The next medical sect to arise was the Semi-animists. They carried the doctrine of Haller further but made no significant change in medical practice.

Next came the Cullenists, followers of William Cullen, in the University of Edinburgh. His theory and mode of practice was simply that of counteracting the symptoms. The Brunonian system came next. John Brown of Edinburgh, who had been a friend of Cullen, put forth the theory that all diseases are due to accumulation or exhaustion of excitability, thus requiring stimulating or reducing measures. He prescribed large quantities of Scotch whiskey as a stimulant, and laudanum as a relaxing agent.

Other system makers followed: Hahnemann with Homeopathy; Dickinson with Chrono-Thermalism; in this country, Beach with Eclecticism; Thomson with Physio-medicalism and others. Each system of medicine, as it arose was asserted by its devotees to be the only system that had any valid claim upon the confidence of the people—it had "stood the test of ages."

The collapse of the divine inspiration of Galen threw the door open for the development of innumerable theories and all kinds of innovations in practice, but how signally they all failed is a matter of record. The theories came and went like changes in the moon. These failures are not attributable to a want of learning or industry or ambition or integrity of purpose. Failure was due solely to a lack of a true starting point. The learned world was full, as Trall says, of "book-made philosophies, brainracked theories, and closet-engendered metaphysics. The minds of medical authors were all more or less warped with the speculations of their predecessors and teachers. There was no one of sufficient originality of intellect and independence of mind to cast off the tremendous incubus of venerated authority, and go directly to the truth itself for the evidence of truth—to ask nature to interpret her own laws. Destitute of all demonstrable premises upon

which to predicate their investigations, and from which to extend their inquiries, each one seems to have conceived a hypothesis or detected an error, and then studied and wrote to maintain the one or the other."

About 300 B.C. the Ptolemies founded a medical school at Alexandria, the first such school in history. The medical school at Salerno was the first medical school to grant diplomas to its graduates. During the thirteenth century medical chairs were established in various European universities. Medical lectures were given in the universities of Vienna and Paris, and schools were established in Padua, Pavia, Milan, Rome and Naples. A little later medical professorships were established at Oxford and Cambridge.

Although medical historians strive to create a medical profession in Europe during the Dark Ages, they do not hesitate to say that what is called medicine was reintroduced into Europe by the Arabs. Salerno was a center of Islamic culture and probably had little influence on Catholic Europe. The famous medical school established there by nobody knows whom, taught Greek medicine as contained in the writings of Hippocrates and Galen, but disregarded anatomy. It declined in popularity after the fourteenth century and was closed by Napoleon in the eighteenth century.

The Europe of 1338 was "drowning in wars, epidemics and famine." The freedom of the Arabic world from epidemics probably had much to do with Europe's acceptance at second hand of Hippocratic and Galenic medicine. There was a great mixing and mingling of Arab, Jewish and Christian scholars, with a transfer of Arabic medicine to Europe. On the other hand when Medieval scholars began to seek among the relics of ancient literature that had survived the ravages of time, they came upon what are described as "scientific writings" of the Hellenistic authorities on medicine.

Although the cathedral schools were more influenced by Islam than by the church and the young students were eager to appropriate to themselves everything anyone had ever thought on any subject, in the universities that were established in the Renaissance period, physic did not take a high rank. Early in the Renaissance period there arose a practice of conferring academic degrees upon graduates in special courses of study. The degree in physic was not the first such degree to be conferred.

Prior to the beginning of this practice the degree of doctor was an honorary title rather than an academic degree. For example, Albertus Magnus (1206-1280) who was reputed to be the most learned man of his time and Alain de Lille each bore the honorary title Doctor Universalis. The word doctor means teacher and was likely to be conferred as an honorary title upon any teacher of outstanding learning.

Calder asserts that in 1140 Roger II of Sicily instituted the first medical degree with the following ordinance: "Whosoever shall

henceforth practice medicine, let him present himself to our officials and judges and be examined by them." Severe penalties were provided for anyone who dared to practice without thus "qualifying." This appears to have been a decree rather than a degree. It may have been a licensing system that was established and we may be sure that it said "practice physic" and not "practice medicine." They were first Doctors of Physic and not doctors of medicine. They had cures and were engaged in curing disease. They boasted much of the cures they performed. The trade name, physician, is reminiscent of the era. It means one learned or skilled in physic. Physic is a drug, particularly a purgative drug.

Efforts have been made in recent years to derive the word physician from the Greek word physics, nature. It probably originated from this Greek root, but at the time the word physician was coined, physic had come, by usage, to mean drug and especially a purgative drug. When Shakespeare had one of his characters to admonish, "throw physic to the dogs," he had no such absurdity in mind as "throw nature to the dogs." When Josh Billings rejoined "Where can you find a dog that will touch it?" he was not guilty of stupidly inquiring "where can you find a dog that will touch nature." Both men knew the meaning of physic. As physicians are not teachers but drug pushers, they should stick to the title physician and cease parading under the false term, doctor.

There was a small group of physicians called Iatrolectics who completed their two years of instruction in the arrant humbuggery of calomelizing and bleeding. The doctor of physic was learned in Astrology and an authority on evil spirits. He was not licensed to practice medicine but was a licentiate in physic. The first medical school established in the English colonies in America was a school of physic and conferred upon its graduates the degree Doctor of Physic. At the beginning the degree of doctor was not conferred upon all graduates of physic but only upon those who prepared themselves for teaching. Those who were going to officiate at the bedside of the sick were simply called practitioners, when they were not called by worse names.

The physicians must have been a lecherous lot since they had to be constantly reminded to keep their minds on their work and off the female members of the household. For example, the code of medical ethics laid down by the college at Salerno admonishes the physician: "Look not desireously on the man's wife, daughter or handmaid, for this blinds the eyes of the physician, and deprives him of divine assistance and disturbs the patient's mind."

NINETEENTH CENTURY MEDICINE

Chapter 26

The medical historian Ibanez says, "The eighteenth century introduced no revolutionary methods of therapy; continued in vogue were bleeding, cupping, purging, dieting. Venereal diseases rampant in a libertine era, were still treated with massive doses of mercury, phlebotomy and baths." For the reason that the eighteenth century was practically barren of significant medical innovations, we have elected to skip it and come to the nineteenth century, which was replete with new innovations. Shryock says that medical practice "tended to be more heroic in the latter part of the eighteenth century than it had been in the earlier decades." This tendency towards heroic practice seems to have continued into the nineteenth century. It was probably more heroic at the middle of the nineteenth than at the close of the eighteenth century.

In Philadelphia, Benjamin Rush, who was the leading advocate of bleeding in this country, advocated (1805) removing as much as four-fifths of all the blood of the body. At the beginning of the nineteenth century the murderous lancet of the blood-letter was busy. The violent purger was as active as a cranberry merchant at Thanksgiving time. The unhappy sufferers with mental diseases were confined to dungeons and held under the cruel lash of their keepers, and were exhibited to the curious gaze of sight seers for a small fee. This reminds us of the statement by Moliere that the whole practice of medicine during this time could be summed up in three words: "Purge, Bleed and give Enemata."

In *A Practical Essay on Typhoid Fever* by Nathan Smith, M.D., Professor of Theory and Practice of Physic and Surgery in Yale College, the author says: "I have had several cases of necrosis of the under jaw, where I was compelled to remove a considerable portion of that bone, which had died evidently in consequence of an inordinate use of mercury during this fever (typhus). In other cases, where calomel has been used freely in the disease, and the mouth has been as favorably affected as could be wished, the disease, nevertheless, has run on forty or fifty days, and sometimes terminated fatally, at a very advanced period." Note that Smith was a teacher of the "theory and practice of physic." This was in 1824.

The sleek-coated physician of the nineteenth century with his false science and his supply of poisons, walked about the community with a prescriptive right to make the strong weak, the weak feeble, the feeble sick, the sick bed-ridden and the bed-ridden into a corpse. He

was a great evil, a legalized evil, a chartered evil, a prescribed evil, far outranking the rum-seller as a wrecker of human life. How could they explain their theories and practices of depletion on any natural principle? The sickening medication of the greater part of the nineteenth century of depletion, counter-irritation, antiphlogistication and visceral poisoning, killed millions.

Armed with lancet, powder, pills and bolus, the nineteenth century physician entered the sick room in the guise of an angel of mercy. Wedded to a theory that blinded them to all experience, physicians plodded along in the same stupid routine of leeching, blistering, antimonializing, expectorating, and cod-liver-oiling, always unsuccessful, their patients so frequently dying and, where not dying, "recovering" in a state of physical wreck, apparently unconscious that there was or could be a better way of caring for the sick. At the beginning of the nineteenth century, the practitioners of "physic and surgery" in New York state received \$1.00 a visit and a few pennies each for pills and powders. For night calls and consultations they were slightly better paid. The patients would have been better off had they paid the physician several times these amounts to stay away from them.

After tactfully admitting the ignorance of the backwoods physician who flowed westward with the tide of settlers, Calder tells us that "they relied on bleeding, cupping and leeching, and their invariable standbys were Dover's powders, dragon's blood, Peruvian bark, and calomel, the mercurial drug." He quotes one physician as saying that in his life's practice he had "dispensed enough calomel to load a paddle-steamer and cupped enough blood to float it." A Dr. Graham of this period said that: "I think three grains of calomel enough for a dose." A Dr. Yandell replied: "Three grains! We use two hundred and fifty in old Kentucky, and generally lose our patients at the last."

The term typhus is of Greek origin and signifies smothered fire or stupor. It is described by the oldest medical writers and is not, therefore, of modern origin like smallpox and syphilis. Among the early settlers of America it was known as the long fever, nervous fever, slow fever, and putrid fever. These terms were also applied to what is now called typhoid, as was the term spotted fever. Indeed, until about the time of the Civil War, typhus and typhoid were not differentiated. Also called ship fever, jail fever and camp fever, they developed amid overcrowding and filth and in poorly nourished populations.

The treatment for typhus and typhoid in the early part of the nineteenth century was killative. Copious bloodletting, emetics, purges and strong stimulants were bountifully plied. Leeching, cathartics, febrifuges blisters, diaphoretics, opium, cinchona, and mercury were freely employed. Such stimulants as opium, wine, alcohol, cayenne pepper, arsenic and large doses of laudanum and cantharides were

given. Some physicians made their fever patients drink as much as three pints of strong brandy at a time.

The physicians went their rounds with lancet, clyster pipe and calomel. It was the day of pollypharmacy when physicians poured physic into their unhappy patients by the gallon. One prominent New England physician tells of having seen a prescription in which alcohol, cantharides (Spanish fly) and arsenic were all directed to be taken several times during twenty-four hours. In 1880 the Pharmaceutical Society of England published the apothecary's bill for attending one Mr. Dalby of Ludgate Hill, in which the drugs for five days amount to twenty-seven pounds, two shillings, ten pence. For a single day the poor victim was supplied with an emulsion, a mucilage, a jelly, a blister, a clyster, a bolus, a cordial, an ointment, two more boluses, a cordial draught, another cordial, an ointment, two more boluses, two more draughts, another emulsion, and a pearl julep—all these things for one day.

There was this famous statement by a physician named Lettsom:

When folks are sick they send for me,
I physicks and sweats 'em,
Sometimes they live, sometimes they die,
What's that to me, why I Lettsom.

The famous physicker and bleeder omitted the practice of blistering from his statement. Certainly the inclusion of blistering to his armamentarium would have made his art and science complete.

Calder identifies the characters in the following quotation from *Medical Essays* (1833), by Oliver Wendell Holmes, M.D.: "Medicine . . . learned from a monk how to use antimony, from a Jesuit how to cure ague, from a friar how to cut for stone, from a soldier how to treat gout, from a sailor how to keep off scurvy, from a postmaster how to sound the Eustachian tube, from a dairymaid how to prevent smallpox, and from an old market woman how to catch the itch-insect. It borrowed acupuncture and the moxa from the Japanese heathen, and was taught the use of the lobelia by the Indian savages."

Calder identifies the monk who taught the profession how to use antimony, a rank poison, as Basil Valentine, supposed pseudonym of Johann Tholde, an alchemist who is supposed to have lived in the fifteenth century. He characterizes him as a "bogus monk," as though it makes any difference in the relations of antimony to the living system whether the man was a real monk or merely pretended to be a monk. A Jesuit priest is supposed to have brought back quinine to Europe, he having obtained it from the Peruvian Indians. There is much myth associated with the introduction of quinine into medicine and we are safe in saying that the whole story is a fabrication. One thing is certain, the Countess of Cinchona, who is said to have been saved from

malaria by the bark of the tree that bears her name was never in America and never had malaria. Thomas Sydenham is identified as the soldier who taught the profession how to treat gout. Calder fails to note that the treatment is a failure, just as he omitted saying that the Jenner vaccine based on the milk-maid's creed fails to prevent smallpox.

Matching in absurdity the cinchona bark cure for malaria, if not in deadliness, was the cobweb cure. In 1884 spider web in thirty grain doses was recommended as a remedy for ague.

Ibanez says that there was a great gulf between the "massive blood-letting of the early decades" of the nineteenth century and the "era of anesthesia and asepsis in the second half of the century." The thing that initiated the biggest change in the practice of medicine since the origin of the drugging practice was the germ theory which was given to the profession by a chemist at the beginning of the last quarter of the nineteenth century. Pasteur's discovery that germs are the cause of disease is described as the "fourth outstanding advance in modern medicine" for the reason that "in the germ we have alike the cause of disease and its cure." The older plan or practice of attributing to a "Mysterious Providence" those impairments of and disasters to human life resulting from a violation of physiological laws was no more absurd than the popular practice of attributing these to germs and viruses.

In America there arose an ignorant farmer who set up a new medical practice, that, for several decades, successfully competed with the allopathic school. His name was Samuel Thomson and the practice became known as Thomsonianism or physio-medicalism. It was largely an herbal practice, but he and his disciples proved, at least, that patients could get well without bloodletting, blistering, calomel or opium. In Europe, Samuel Hahnemann, a regular practitioner of medicine and a professor in a medical college, broke with the old practice of curing one disease by producing another and opposite disease, and set up a new school of medicine (homeopathy) that sought to cure disease by producing another similar disease. This school also employed poisons, using them, however, in attenuated doses. These were the first real efforts at medical reform, but they were rudimentary and nothing more.

In no previous age of the world had such vast fortunes been built from the sales of pills, salves, ointment, liniments, syrups, elixirs, blood purifiers, etc. Although comparatively new, the patent medicine business—the product of the nineteenth century—became a veritable rage. No previous age of history had witnessed the birth of so many new plans of medication, all of them an invasion upon and a deviation from the regular drugging system. Patent medicines are chips off the old block.

The more educated people seem to have lost their taste for physic in a bottle, but they are willing to swallow it in a pill or to have it sent into them by way of a needle. Among the poor there is seen a love for large bottles of physic. The nastier, darker and thicker the physic the better it is supposed to be. Under state medicine, when the physician tends to become nothing more than a dispenser of "free" drugs, the poor will be sure to always have on hand a supply of pills and potions. This affection for physics has been cultivated for four centuries and stems from the days of pollypharmacy.

An aged medical man, escapee from the nineteenth century, writing at the beginning of this century, who had seen bleeding, cupping, violent purging, blistering, etc., come and go, rejoiced that medicine is not satisfied with existing things. We are looking, he stated, for and striving after something definite, hungering after ultimates.

English sweat (*sudor anglicus*) is the name given to the symptom complex that developed in epidemic proportions in Wales and England early in the Renaissance. It first developed in Wales in the summer of 1485 and soon spread over the country to London. The disease was described as "coming on suddenly" with apprehensiveness, cold shivers, giddiness, neck pains and prostration. In the acute stage the patient suffered heat (fever), profuse sweating, intense thirst, miliary eruptions and often died within twenty-four hours. Recovery took eight to fourteen days. Britain suffered five major epidemics of the "sweating disease," after which it ceased to develop.

Plagues and epidemics were frequent in Europe during this time, as Europe had lapsed into a continental pigsty. Following the breakdown of the Greco Roman sanitary system and the collapse of hygiene, Europe gradually sank into an insanitary state about like that existing in parts of India today. Smallpox, which had been unknown to the Greeks and Romans, became epidemic. Bubonic plague, cholera, typhus and typhoid fever, scarlet fever and other diseases developed epidemically. The death rates were high. Neither the priestcraft nor the drugging craft had any rational idea about cause, while the treatment employed was manslaughterous. The medical profession of the time found the causes of the plagues in such things as a battle between the ocean and the sun or deadly gases escaping from openings in the earth and spreading over the earth. The epidemics developed, the people died, the epidemics declined and the professions knew no more about its cause or the proper care of the sick than before the epidemics arose. The epidemics cease to develop with the revival of hygiene and sanitation. No drugs cured them, and no vaccines and serums prevented them. They passed as did English sweat, when the social and sanitary conditions, out of which they arose, were improved. All of this took place without any aid from the medical profession.

We take too much for granted when we accept any figure or estimate of the number of cases and the number of deaths from any so-called plague or epidemic in the past—or even in the present, for that matter. Not only was diagnosis very crude, uncertain and even not attempted, but the treatment was horrific. When we reflect that during the nineteenth century as much as 480 grains, of calomel, enough to kill half a dozen men, were sometimes given within a few hours to cholera patients, we do not wonder that so many of these patients died. The calomel depleted the body of its fluids even more than did the cholera. The treatment of smallpox was equally as lethal. When we read of the great mortality of epidemics we should think first of the desperate remedies administered in desperate cases.

THE DEVELOPMENT OF MODERN MEDICINE

Chapter 27

"The advent of 'modern medicine'", says Richard H. Shryock, the medical Historian, (*Journal of World History*, 111, 4; V.1), "has been ascribed to several eras: to the Renaissance (Vesalius), to the seventeenth century (Harvey), to the late nineteenth century (Pasteur). A good case may be made for each of these interpretations, the choice among them depending upon what criteria are employed. Indeed, only the eighteenth—among recent centuries—is not credited with the modernization of this field."

I think that we are justified in beginning the "modern" period with the breakdown of the Galenic system. This occurred in the Renaissance, a collapse that more than one man was instrumental in producing. If Vesalius and the artists who studied anatomy, showed that Galen had been wrong in some of his anatomy, thus depriving him of the halo of divine inspiration, men like Paracelsus were instrumental in discrediting his system of medicine. This collapse of Galenism opened the way for speculation, experimentation, innovation, and change. These, although commonly wild and with no better foundation than that enjoyed by the Galenic system, led to a complete crumbling of the system that had so long endured.

We must admit that this was only a beginning. The development of modern medicine followed and is still in progress. But I would draw a sharp line of distinction between the development of the biological sciences—anatomy, physiology, cytology, histology, embryology, bacteriology, general biology, pathology, etc.—and the development of medicine. While it is a custom to refer to these biological sciences as medical sciences, this should be avoided. To class the biological sciences as medical sciences, is to keep alive the delusion that medicine (the healing art) is in some way related to these sciences and that it has advanced as they have advanced. While the advance of these sciences, not all of which has been due to the work of medical researchers, has resulted in some changes in the alleged healing art, the fact stands out like a sore thumb, that the methods of treating the sick are still largely those of employing poisons of various kinds and of all degrees of virulence. The notable exception is in the more extensive and bolder employment of surgery.

In this same article Shryock says that "the tradition of the guild (the medical guild) was to cure." While it is true that, after circumstances forced this upon it, the guild began to give more attention than formerly to prevention, its chief work still remains that

of cure. Its means of cure, though greatly multiplied and commonly of greater virulence, are still poisons. Even its means of prevention are largely poisons. It places greater virtue in its vaccines and serums than in hygiene and sanitation.

In enumerating the reasons for the slow progress of medicine, Shryock mentions that "public opinion presented moral obstacles to genuine research which, in the long run, delayed the very discoveries the public most desired. Physiological or clinical experiments upon human beings were tolerated only within very narrow limits, and there was much opposition to the dissection of even the dead body." This lament that the public and the patients objected to turning human beings into guinea pigs is not an isolated one, but it should not cause us to close our eyes to the fact that the experiments were performed on a wide scale without the knowledge of the patients and the public. Indeed, as physicians have grown more bold in this field, the use of men, women and children as guinea pigs has become so nearly universal in hospitals and clinics and even in private practice that it is now the rule instead of something that is confined to the daring few.

Shryock says, "hospitals had not been founded primarily for scientific ends, they were the products of humanitarian zeal. But they provided just the means which were needed in order to implement the medical concepts then coming into vogue. The hospitals would have evolved to some degree without modern medicine but there could have been no such medicine without the hospitals." What he then describes are the intensive studies of local pathologies and their correlation with the symptoms presented by the patients. This study was made at autopsy chiefly. It was the hospitals that provided the materials for such studies, for hospitals were known as places where people die.

In France, where this work originated and was carried out with great zeal, Broussais charged that the clinicians neglected their patients and did nothing in the ways of cures. He asserted that Laennec was more interested in performing autopsies than in preventing them. Shryock tells us that there was "some truth" in the charge. Indeed, he says that "the need for clinical objectivity inhibited human considerations to a degree that is still a problem in hospital practice at the present time." This is a very eloquent way of saying that there are still those in the hospitals who are so anxious to study the local pathology at autopsy that they neglect the interests of their patients.

Shryock covers these experiments with a mantle of scientific charity by saying that the French clinicians were skeptical about the older therapy and had nothing with which to replace it. They doubted the efficacy of bleeding and repudiated much of the traditional pharmacopoeia. In justifying their apparent neglect of their patients, these French clinicians contended that they were following the only logical course open to them, if they were to establish an effective

therapy. If diseases were specific, they reasoned, the means of preventing or curing them were probably also specific. How could specifics be found until after the identification of the entities (the specific diseases) themselves were first identified?

The publication in other languages of the French works on this clinical research, resulted in a rapid diffusion of the clinical studies to all other parts of the civilized world. Neglect of patients and experiments on them followed by autopsies became the international vogue. Although this resulted in the multiplication of disease, the adoption of new remedies, and a significant advance in the science of pathology, it also led to clinical therapeutic nihilism in some quarters. Some men saw that drugs are not healing agents. A general recognition of this fact would have destroyed the profession and the profession was not trying to commit professional suicide. It rationalized its practice of poisoning the sick and went merrily on.

Chemistry came to the aid of medicine by making possible, to quote Shryock, "certain active drugs—such as quinine—from their crude vegetable sources." It should be noted, in this connection, that these "active" drugs are the poisonous alkaloids and glycosides of the crude vegetables, also of animals. It was assumed, without justification, that if the poison could be isolated and separated from the inert substances with which it is associated in the plant or animal, it could be administered with greater curative effectiveness. This is one of the "advances" of which modern medicine is proud. It was an achievement of the chemists, not of medicine, and only increased the deadliness of medical practice.

Going back to Shryock's account of the evolution of modern medicine, he tells us that the shift from generalized to localized pathology that resulted from these French researches, had great consequences for surgery and other fields. In surgery it has led to increasing resort to the knife to cut out affected tissues or organs. With the discovery of anesthetics there came a more daring invasion of the living organism and an unprecedented multiplication of surgical vandalism. As it was assumed that the pathology is purely local and that it is specific, hence, if it is cut out the patient is restored to health. It is difficult to conceive of a greater mistake.

Until it was learned to tie off "bleeders", thousands of patients bled to death while the operation was in progress. The development of this technique allowed great numbers to live who would have otherwise died. The advent of aseptic surgery saved many more from death, who would have died from septic poisoning. Increasing skill saved many more. There can be no doubt that surgery has made great advances, so that its deadliness has been much reduced, but it is still for the most part, a palliative procedure that removes parts instead of cause. As in the search for cures, causes are ignored. An anthropologist writing of

the ways of life in the 1950's tells us that "hospitals were no longer an almost inevitable prelude to the graveyard," a remark that indicates the deadliness of hospital care in the past. Indeed, it used to be said that "hospitals are places where people die."

Hospitals and surgeons, like physicians, play fast and loose with human life and seek to escape responsibility for the frequently disastrous consequences. An article in the *Daily Telegraph* (London), July 29, 1963, headed "Doctors Concerned at Kidney Grafts," carries a horrible report of the efforts to graft kidneys from one person to another. It says: "Doctors, seeking to curb experiments on human beings are concerned about the circumstances in which kidneys are at times transplanted in one patient from another recently dead. Some of the dead breathe their last in an operating theatre." Reading the item in the *Telegraph* one could easily get the idea that the transplanting is being done by other than physicians and surgeons. The profession is not subjected to criticism. It goes without saying that no other profession would be thus exempt from their criticism.

The medical profession advocates and eulogizes drugs in almost every form of disease and then shirks responsibility when the people demand more and still more drugs. It lays claim to the prerogative of prescribing certain of its drugs and then behaves as if the patients are to blame for "over-prescribing." The profession both advocates and urges vaccination as a sure preventative of smallpox, then blames everyone except itself when a panic develops to have it done. It will not accept responsibility for the consequences of its actions.

TWENTIETH CENTURY MEDICINE

Chapter 28

What most distinguishes medicine in the twentieth century from medicine in the preceding centuries is its burgeoning into a giant industry. Particularly the pharmaceutical and hospital industries have grown to gigantic proportions during this century. At the same time medicine has donned the bright robes of science and has succeeded in hypnotizing mankind with the illusion that it is a scientific evocation. With its great show of research and its vast array of statistics, which are made to order, today's medicine fools the unwary into believing that, with its stronger poisons, it achieves successes which the past hardly dared dream of.

In its issue of December 31, 1910, *The Lancet* (London), is an article entitled "The Annus Medicus," which said: "That medicine has advanced during the last twelve months we have no doubt, though the time is too early to pick upon any given piece of recorded work and point to it as the beginning of a new principle or the embryo of a method of treatment with which great things will be wrought."

That is an echo of a day when progress was not so rapid. Today, medicine makes such rapid advances that new pieces of work and new discoveries are evaluated almost before they emerge from the womb of the laboratory. Nobody seems to think that "the time is too early" to judge the worth or the lasting qualities of a new alleged discovery. Today there is such a hurry to cash in on every new notion and every new drug that great advances are born and die in rapid succession. New principles are promulgated, great expectations are raised; then they pass; new methods of treatment are born, are heralded to an expectant world with a fanfare of trumpets, and then pass to oblivion almost before the ink is dry on the newspapers that carry the glad tidings. The medical harvest is barren but the field is full of tares.

Sir William Osler described the treatment of disease from Hippocrates to John Hunter as "one long traffic in hypotheses," a description that does not touch the anti-vital character of the substances and processes employed in treatment. Osler, who was regarded as the greatest physician of his time, also failed to note that the traffic in hypotheses did not cease with the birth of John Hunter, but continued right on to the end of the eighteenth century, through the whole of the nineteenth century and is still with us today. Between Hunter and Osler there was the great French physician, Broussias. No informed man will deny the truth of the statement of Broussias that up to his time "medicine has only landed men in chimerical hope, and taken all in all, it has been more harmful than useful to mankind."

What many of them will seek to deny, however, is the assertion, which I now make, that the further extension of the poisoning practice that has taken place since the time of Broussias, has not been more useful than was the practice before his time.

Medicine was a craft based on superstition and faulty empirical observations. If, today, we think of it as an applied science, because of the great amount of research and analyses that have been done, this is because we fail to discern that the old superstitions are still ensconced in the modern theories and practices. Modern medicine is still demon-haunted, although it has altered the sizes and shapes of its demons. Indeed, they have migrated from the world of ectoplasm to that of protoplasm, but they are still with us.

The Renaissance represented a resurgence of long-buried elements of Greco-Roman civilization in the emancipation of Europe from churchly repressions and asceticism. Each generation since the Renaissance has seen a deepening of the misconceptions of medicine, a gross widening of the anti-vital horizon, a more profound elaboration of fallacy and a more complex formulation of hypothetical schemes that have no reality in the world of life. The object of all medical research seems to be nothing more basic than the effort to discover how each manifestation of impaired health can be solved by artificial means.

We frequently hear of the progress of medicine during the past half century, but the story is a list of near-discoveries and forgotten practices. As an example, medical treatment of smallpox has been so variable and changeable that no adequate consideration can be given here. It has varied from heating and stimulating measures to the very opposite plan of cooling and debilitating the patient. Half a century ago calomel and colocynth, senna and salts, saline cathartics, castor oil, opiates and blisters were generally recommended and employed. All plans utterly failed to benefit the patients, all of them doing much injury and killing great numbers of patients.

By continually harping upon the subject, the medical industry has the public convinced that the results of their experiments are dependable, and so brainwashed has the public become that it forgets the latest flop from the medical laboratory in reading the announcement of the newest thriller. Controlled experiments are called the "scientific method," but we are not to overlook the fact that there are many sources of error in such experiments. The controlled experiment is nothing but the old trial and error method of testing our guesses. It is a program of trying and trying again. Sir John Hunter, whose famous advice to Edward Jenner, "Don't think, try," helped to fasten the vaccination practice upon mankind, was largely responsible for the adoption by the medical profession of the deceptive device called the controlled experiment.

Sound (as opposed to logical) reasoning presupposes correct premises and when it is realized that the medical system lacks a single verifiable premise, it becomes apparent that all of its conclusions are false and all of its practices are fatal. Realizing its total lack of a single verifiable principle, the profession eagerly grasps the control experiment in the hope that this would provide them with a way out of their dilemma. Controls, to mean anything, must receive no drug treatment of any kind. From the viewpoint of the regular physician, they must be totally neglected, so far as so-called therapeutics care is concerned. Not only the controls, but the patients receiving the new drug to be tested must be numerous, else will the results not be dependable. A few cases are not enough to establish the virtue of an alleged remedy. The preceding animal experiments combined with the clinical testing of the new drug not only fails to detect all of the evil effects of the new drug, but it fails to reveal all of its shortcomings. As a consequence of these limitations, the final experiment must be made upon numerous patients in what amounts to a general practice. Years sometimes elapse before all the evils produced by a drug become known.

The holocaust that resulted from prescribing thalidomide for pregnant mothers after it had been "thoroughly tested" in animals and in the clinic, is an example of a drug the evil effects of which quickly become apparent. Aspirin may be cited as an example of a drug that was in use for a long time before its evil results began to be recorded and studied. It is now well established that the taking of aspirin is a cause of gastrointestinal bleeding and it is said that aspirin makes an appreciable contribution to the number of hospital admissions on account of such bleeding. Bleeding caused by aspirin frequently results in gastric ulcer and anemia. The outcome of this knowledge is that people with gastric and duodenal ulcers are cautioned against the taking of aspirin. But even here there are specially coated tablets that are advised. The profession is kept forever busy trying to either cure or prevent the evil results of its remedies. Complications are built by drugs.

The most important source of error in interpreting the results of the controlled experiments is the tendency to attribute to the new drug recoveries that are due to the self-healing powers of the body. A hundred different new drugs tested on people suffering with the common cold would all apparently cure the cold, whereas we know that the cold spontaneously ends in a few days with or without treatment. All new cures ride to glory on the self-healing powers of the body. Failure to take this fact into account causes these experimenters to delude themselves about the value of every new drug they test. Popular ignorance of the body's self-healing powers permits the public to be duped over and over again by the alleged wonder cures. Let us

have light! Medical experimentation can exist only in the darkness of ignorance.

The same mistake is made in compiling statistics. Statistics show results, not causes. A compilation of statistics may show that eighty percent of those treated with a new drug recovered health, but when we know that these recoveries were the results of the operation of the body's own self-healing power and are not due to the drug, we interpret the statistics quite differently. It is not illogical to say that twenty percent of those treated by the new drug were killed by it.

Physicians are afflicted with a "statistical fever" although failing to recognize that their statistics are very misleading and commonly have to be scrapped a few weeks after they are published. How often does it happen that a man gathers up a lot of case reports and arranges these into statistics and publishes these only to have someone else publish another series of statistics at the same time or shortly thereafter which show his figures to be unreliable. If statistics were of real value, there is hardly a cure of the past that would not still be in favor. Yet we get great numbers of people who have been told that they have cancer, tuberculosis, Bright's disease, and other incurable maladies, who are convinced they have these diseases, but whom, we were convinced, did not suffer with the troubles they were declared to have. It would be no task at all to get testimonials from these people asserting that they were cured of these diseases, but we never ask for such testimonies, for we believe they would be as misleading as those offered the public by the medical profession. Rarely does the profession publish a testimonial—instead it publishes "case reports" and statistics. It should be obvious to my readers that a case report is no better than the diagnosis upon which it is based and that statistics are not better than the diagnoses that went into their making. The greater the number going into the statistics, the greater the number of mistaken diagnoses.

Physicians themselves are often deceived by plausibly prepared testimonials in the form of statistics, case reports and reports of research results. As long ago as 1933, T. Swann Harding, writing in the June issue of *The Modern Thinker* about the employment by physicians of patent medicines, wrote: "Doctors who bemoan the public's gullibility are themselves equally gullible. And their gullibility is far more dangerous. Yet the manufacture and sale of fake medicines which doctors prescribe could be stopped. Why is so obvious and necessary a step neglected?" For this and many similar utterances, Mr. Harding, author and research scientist, was *persona non grata* with the medical powers-that-were. To dull his pen, they finally had to resort to the expediency of making him editor of a medical journal.

Physicians are not more immune to persuasion, even conviction, by the cleverly prepared advertising of the drug houses

than are laymen. Guided by testimonials, faked reports, clever salesmen (detail men), colored advertisements in the medical journals, and by the attitude of the Council on Pharmacy and Chemistry of his medical association, the physician accepts and prescribes worthless and harmful drugs. Mr. Harding correctly says that full page advertisements in ten colors on heavy paper carried in leading medical journals fail to establish the clinical value of any given pharmaceutical product, nor is therapeutic efficiency increased by fancy wrappings. He says that regardless of the display of scientific investigation made by the various drug companies, the truth remains that the chief interest of the drug trade lies in manufacture and distribution (that is in profits), and that at best, scientific research is to be looked upon as merely a means to an end.

The general public has been led to believe that physicians have remedies for every passing phase of impairment of health, but the physicians have no such faith in their remedies. Sir William Osler once said of his credulity: "For the crass therapeutic credulity so widespread today, and upon which our manufacturing wax fat, there is no more potent antidote than the healthy scepticism bred of long study in the postmortem room." Truly has it been remarked that the postmortem room is the disillusion chamber of the thoughtful physician, for postmortem revelations of the effects of treatment shatter his faith in his remedies.

A profession that frequently admits that it does not know what to do for the common cold, that does not know how to remedy a simple indigestion or an uncomplicated constipation, that is helpless before a crop of pimples on the face of a teenage girl, should hesitate to herald its many alleged cures for more formidable and complex pathologies to the world. A profession that does not have an average life span equal to the general average should not talk of increasing human life. When its greatest specialists often sicken and die of the very diseases in which they specialize, there is assuredly something wrong, both with their theories of causation and with their means of prevention and cure. When medical experts sicken and die of the very diseases in which they specialize, when the best physicians in the country have no more protection against disease than the layman, when medical men of high and low degree lose health and die prematurely in spite of their high national and international reputations, what is a medical education worth? An education that is inferior to instinct does not deserve to be continued.

The present is preeminently the era of adverse reactions and iatrogenic disease. The medicine of our time is based on destructive and not on constructive methods. With such methods of treatment, have we any right to expect other than adverse effects? Why can't the profession develop at least one cure that won't kill the patient? Just

one—that would be a start in the right direction. Yet one reads drug advertising with a sense that death must be an error on the part of the consumer. It is necessary to keep the patient goggled with prismatic lenses through which he can see only what it is desired that he see. A glimpse of light causes him to rebel and look elsewhere for recovery.

Medicine, as practiced today, as thousands are beginning to suspect, is of uncertain benefit. Certainly, physicians are having daily evidences of its hurtfulness shoved under their noses. If we could gather together the many thousands now living who have been under medical care for periods ranging from six months to several years and who have received no apparent benefit from the care, we would have a huge army. Another army could be composed of those who have ample reason to think that they have been seriously injured by medical care. All of this, when added together, is enough to damn the whole profession. But we have another army to add to the list: there is the great army of prematurely dead who have died because of the failure and evils of medical care.

Can it be that this is medical science? What is science, if it is not the discovered truth about anything? Science is not a so-called exceptional truth; it is not a truth that works today and fails tomorrow. A means of care, such as penicillin, that is heralded as a great wonder cure today and that turns in a crop of glaring failures tomorrow cannot be based on science. Forget the excuses of failure; the alibis and pretexts. Take into account that the drug is not living up to the promises made for it.

Dr. Harry Clements, writing in *Health For All* (London) November 1961 quotes: "Dr. Speedby, in *The 20th Century and Your Heart*: 'Now, thanks to prevention inoculation, chemotherapy and the use of antibiotics, such diseases as diphtheria, scarlet fever and pneumonia have lost their terrors'.

"Report by Robert Scott Thomson in the *British Medical Journal*, July 29, 1961: '...the reduction in the case fatality of scarlet fever began long before the introduction of chemotherapy or antibiotics'.

"Dr. Speedby: 'Hospitalization and special clinics for the treatment of venereal diseases are becoming unnecessary. Curiously enough, even the germs themselves have changed their characteristics and nature since being confronted with penicillin and other antibiotics'.

"Editorial in *The Lancet*, July 29, 1961: 'Evidence from many countries indicates that the incidence of gonorrhea is increasing and that remedies which have proved effective in the recent past are losing some of their efficacy'."

What one may think of medical practices depends upon what medical authority or medical report one reads. Medical opinion has always been both fluid and contradictory. The authorities are rarely

able to agree among themselves. At medical conventions, where the big men of the profession get together and swap delusions and pat each other on the back, each physician has a right to put into circulation almost any exaggeration about himself and get his conceits polished up for the coming year. We tend to defend a thing merely because it is in vogue. Physicians tend to defend the current fashions in drugs while scoffing at the drugs that may have been fashionable a decade before.

There are those who think that the body can be affected for good by a manipulation of its actions and reactions. If the body is subjected to some influence that occasions a particular action, it must, in the nature of things, react. They interpret these actions and reactions as being equivalent to the natural healing processes, an interpretation that is not only false, but one that leads to exhausting treatment. There is no limit to the possibility of exploiting this idea that the series of actions and reactions occasioned by treatment are equivalent to the natural healing process. When we find gnat bites offered as a means of making tiny openings in the skin through which toxins may be expelled, we cannot guffaw lest we regurgitate.

Medicine as practiced today is a system of spectacular palliation. Physicians are satisfied to relieve pain, reduce fever, check a cough, allay irritability, check a diarrhea, relieve a headache or otherwise tranquilize the sufferer. They administer sedatives and stimulants with no thought given to the causes of the troubles for which their ill-advised doses are prescribed. Instead of studying cause and effect, they search for cures and for more effective palliatives or palliatives that produce fewer adverse reactions. The deceptive fallacy of the present day medical advocate of the "safe small dose," which has been accepted by the greater part of our people leads into the abyss.

Cures are often found and they remain cures for a week or two or a year or two, rarely for a decade. Many cures for tuberculosis have been discovered and new cures for the disease are frequently announced, but the case rate continues high and people continue to die of tuberculosis. Cure mongers pretend to be able to set aside the laws of nature and to be able to cure a disease without even knowing its cause. This is happening over and over before our eyes in the case of cancer. The Cancer Society heralds the glad tidings to the world that seventy thousand cases of cancer are being cured in this country every year—all this without knowing the cause of cancer. This is an example of what is meant by curing. To cure is to restore health without removing the cause that has impaired it.

The great variety of drugs in the pharmacopoeia serves more as a medium for the display of ignorance than as an opportunity for correct selection. When every patient is given the same drug for the same disease without any regard for the variations in the causative

factors in different cases, we reach the height of ridiculous. Equally ridiculous is the practice of the profession of testing each new cure as it is discovered upon a wide variety of so-called diseases, a practice which attests to the fact that the old alchemical search for a panacea is still on. That the practice persists is a certain indication that the profession is lacking understanding. The great and complex system of medicine that has been twenty-five hundred years in the building is going to pieces and no man can put it back together again.

The preventive measures of twentieth century medicine, like legacies from the past, along with its cures, are all disease producing. In the eighteenth century, medicine adopted the old shamanistic practice of inoculating the healthy with pus from pustules on the body of smallpox patients to prevent smallpox. After nearly a hundred years cowpox pus was substituted for smallpox pus and vaccination replaced variolation. Until the coming of Pasteur with his germ theory of causation, only the vaguest ideas were entertained about how vaccination was supposed to work. Pasteur laid the ground work for the discovery of hundreds of preventative vaccines and sera, only a few of which survived the initial test. Today we have a thoroughly Pasteurized profession, so prepos-terous, so filled with quackery and imposture, so blinded by its own conceit which impels it to attempt to force its inoculating practices upon everyone that it has become a menace to the public health. It was once suggested by a prominent British London physician that "the glorification of Pasteur is a sign of the decadence of medicine," but it is difficult to conceive of medicine decaying.

We are in rebellion against the vile superstition of the age that by inoculating into the bodies of the healthy the products of disease of animals or of another human being, the healthy can be insured against disease. Our position is simply this, that far from preventing disease, every attack of this kind upon the integrity of the organism makes it more liable to the development of disease.

Good health is considered dangerous only by those who believe in and want to force upon everybody the vaccination practices that have been developed by the medical profession. It has been our observation that it is the vaccinated and inoculated who are afraid. Sure of their protection, they are afraid of the unprotected. If you are not vaccinated you are a menace to the vaccinated.

Were the theory upon which the vaccination practice is based a valid one, a successful re-vaccination would indicate susceptibility to smallpox. William Scott Tebb also pointed out that in the years when smallpox is prevalent, the total or general mortality is less than the average, indicating a salutary effect growing out of the epidemic.

That the demoralizing influence of "infection" scares is well understood by those in authority and they do not hesitate to use this as

a means of getting done what they want done. To first frighten the wits out of the people and get them to comply with their orders is the pattern of activity.

After years of trying to find a germ for each disease and turning up but a small handful, viruses were conjured into existence to save the tottering germ theory. Against viruses the conventional vaccines and serums were ineffective. Something different is needed. Result! A new type of vaccine is in the offing. The *New Scientist*, July 13, 1961 says: "It looks as if interferon, which is produced by the cells to deal with virus infection may be a very general response of the cells of vertebrates to virus infection and that interferon is capable of blocking the multiplication of virtually all the animal viruses that have been tested to date." The next thing will be to find means of stimulating the production of interferon and a way to "safely" inject the production of one animal into the body of another.

W. McDermott, who is described as a foremost American authority on the subject, wrote: "A surprising proportion of the disease load in our hospitals today is microbial disease, but, unlike those of a few decades ago, today's diseases are caused by the very microbes that we have long been accustomed to regard as essentially harmless inhabitants of our tissues . . . In short, man is beginning to fall prey to what we have hitherto regarded as his 'own' microbes." It is now the medical view that microbes that were formerly harmless have been transformed into pathogenic bacteria by antibiotics and other drugs used in combating microbes previously held responsible for diseases. Assuredly, this is the climax of stupidity!

THE NEW DAWN

Chapter 29

The conservatism of the ancient priesthoods preserved for ages the hygienic practices of an immemorable past. These normal factors of life continued to form vital and important elements of the care of the sick throughout that vast period during which the priest-craft held sway, and they continued to constitute a part of the mode of care during the early part of the evolution of leechcraft. Although both priest and leech taught man to rely upon artificial adventitious and harmful processes and substances, neither of them were able to completely divorce man from reliance upon his primitive requirements; indeed, the priests made no effort to do so. Neither the prayers and magic of the priest, nor the poisons of the physician could dispense with the normal needs of life. Western man made no attempt to abandon the primal mode of care of his body, in both health and illth, until a few centuries after the rise of the medical profession. The struggle between those who would rely upon drugs to restore health and those who would reject drugs and rely upon regulation of the ways of life, continued right down to the ushering in of that long night of intellectual darkness which we know as the Dark Ages.

Under the sway of antinaturalism and supernaturalism, with its condemnation of the body and the "works of the flesh," hygiene was neglected and the sanitary systems broke down. Europe degenerated into a continental pig sty. Epidemics and plagues abounded and a people who thought so much more of a hypothetical post-mortem existence above the clouds than they did of life in this "lowly vale of tears" found their way to heaven in great numbers. Superstition took the place of learning, the people forgot to bathe. Compared to man in the Middle Ages, the life of the savage is a heavenly Paradise.

Despite strong resistance from the priestcraft, there came the revival of learning, but the sanitary measures of antiquity had been lost and hygiene had been forgotten. There was not an immediate revival in these realms. Medicine emerged triumphant from the long dark night of antinaturalism. Its poisons were now recognized as the only means of restoring health and of "warding off disease." Its methods of care grew more and more fantastic, its doses of poison became larger and larger until the day of heroic dosage dawned. Soon, even the people, although ignorant, sensed that they were being murdered by their physicians.

This was a time when patients suffering with high fever and parched with thirst, although crying for water, were denied by an ignorant and vicious school of medicine, this essential need of life. It was contrary to the teachings of the Allopathic school of medicine to

give water, either inside or out, to a fever patient. Bathing was as dangerous as drink, but was dangerous to the healthy as well as to the sick. It was a time when medical men spread abroad the idea that it is injurious to keep the bedroom windows open. Fresh air, night air, cold air, damp air, and draughts were especially harmful. Hospitals were no more ventilated than they were kept clean. When the early hygienists asked: "Why is it that men can sleep upon the ground, in hog huts, tents, in outhouses, in the saddle, and all such places so at variance with Dr. Hall's teaching, and yet enjoy rugged health," they were met with scorn. This was a time when tubercular patients were placed deep in the earth in caves and were placed in cow stalls that they might inhale the effluvium that arises from the decaying manure, and were permitted to breathe the fumes from gas factories for the benefit of their diseased lungs. Journals published and edited by medical men declared that "sunshine must be inimical to health," while they ignored the need for exercise even more than they do today. The time was ripe for the revival of Hygiene.

In Europe, under the leadership of Priessnitz and Schrodt, there was a revival of the use of water applications in the care of the sick. Under the leadership of Gutzmuth, Ling and Jahn, there came about a revival of physical culture and of manual manipulations of the body. Rikli revived sun bathing. Revived as Nature Cure, these methods came to America in the fifth decade of the last century and ultimately evolved into Naturopathy. The Nature Curists were eclectic and attempted to incorporate both diet and herbalism into their system, even, a little later, accepting homeopathy, which is a system of drugging, as is herbalism. The Nature Curists did give much attention to hygiene, although relying largely upon their treatments to restore the sick to health. Eclecticism always leads inevitably in one direction—towards greater complexity and confusion and away from any valid principle and into the bogs and swamps of empiricism.

The Hygienic System had a different origin and evolution. It seems appropriate that the revival of Hygiene should find its initial beginnings in ancient writings. If the Renaissance owed its initial beginnings to the reading of ancient Roman and Greek writings, what more natural than that the renaissance of Hygiene should originate in a similar manner? The ancients had practiced Hygiene; they wrote much about it and they incorporated it into their religions and into their sanitary codes. From this source a people who had all but lost all knowledge of the pristine art of living could find its way back to a sane way of life.

A group of people calling themselves Bible Christians migrated from England in the early part of the nineteenth century and settled in and around Philadelphia. These people had, as one of their cardinal beliefs, the thought that the eating of animal flesh was a

violation of the first commandment God had given to man concerning his food. Accordingly, they abstained from all flesh, eggs, milk, honey, cheese, butter and other animal foods. They abstained from all alcoholics, tea, coffee, salt and all condiments. Their fare was a simple vegetable diet with only water to drink. Obviously, such a religion had scanty possibilities of growth among a people addicted to the wildest excesses and the wildest indulgences in the very things from which its devotees abstained.

But an epidemic of cholera developed in Philadelphia in 1830; there was a high incidence of the disease in the city, then but a small one, with a very high death rate. The Bible Christians nursed these cholera patients without one of them developing the disease or dying of it. It was the teaching of the medical profession at the time, that to avoid cholera, one must eat heavily of flesh foods and partake liberally of wine. These people who took neither flesh nor wine, escaped the disease, while the wine drinkers and flesh eaters sickened and died.

Sylvester Graham, a Presbyterian preacher, who had been engaged by the Pennsylvania Temperance Society to lecture in that state and who had been trained in physiology and anatomy, came in contact with these Bible Christians, just after this incident, and was impressed by their experiences. His first series of lectures on what became known as the Graham System, dealt with the cause, prevention and remedy of Asiatic cholera. He lectured extensively and wrote much on the new (but very old) system of living and acquired a large following. He strongly opposed the eating of white bread and advocated a return to whole wheat bread, this bread receiving his name—Graham bread. In his work, Graham went far beyond what the Bible Christians had done and included the whole of man's way of life in his system.

Graham once remarked that "The time will come when people will make pilgrimages to my grave." If we may accept it as a law of nature that work of merit will, in the end, win approval, Graham's prophecy may yet come true, although the practice of making pilgrimages to graves has about gone out of fashion. It will be enough to fulfill this prophecy if we learn to give the man full credit for his genius and for the superlative value of his pioneering work. He held up a bright light and led the people through the darkness at a time when all was darkness and gloom. We of today owe a great debt to him that most of us do not recognize, for knowledge and practices now common. Even people who never heard of him are carrying out some of the things he advocated. His name has been hidden and his work belittled, but even his traducers are following in his footsteps.

In Connecticut, there lived a physician who had spent twenty years drugging his patients, with his faith in the drugging practice waning year by year. He broke with the drugging practice in 1822 and

began a practice that was genuinely hygienic, but to which he added, as a means of securing the confidence of those who wanted drugs, bread pills, sugar pills and colored water. So successful was he that no other physician could gain a livelihood in his vicinity. Yale University conferred an honorary degree upon him in recognition of his remarkable success, although, at the time, the authorities at Yale were unaware of the fact that his success was due to the fact that Isaac Jennings had abandoned the poisoning practices and was relying on fasting, diet, rest, etc., as means of restoring health to his patients.

In 1844 another physician, who, that year, settled in New York City, near the city hospital, having lost faith in drugs, and having investigated the Water Cure of Priessnitz, opened a water cure, the first in America. He was so successful, although he received only the most desperate cases that flowed from the hospital, that he never again gave a drug so long as he lived. This man, Russell Thacker Trall, soon incorporated Grahamism into his practice. At the outset Jennings was no vegetarian, but he met and conversed with Graham and became one. Trall also became a vegetarian. These three men may be said to have fathered the Hygienic System, although they were joined by other men and women, such as William A. Alcott, Thomas Low Nichols, Mary Gove, James Caleb Jackson, George H. Taylor and others. The man who brought all the threads together and formed them into one system was Trall. He, also, was the one to adopt the name, the Hygienic System, and he founded the college of hygiene in New York in 1853. First a medical man, he became a hydropath and then evolved into a hygienist.

With the first faint glimmerings of truth there came the beginnings of the Hygienic System. As it is taught today, it is no empirical system, but is truly scientific. That is to say, it is founded upon the immutable laws of nature; its fundamental principles are as firmly established as the principles of any other science; they are plain, easy of comprehension and logically and experimentally proven. In thus declaring that the Hygienic System is scientific, we do not, thereby, commit ourselves to all of its opinions and practices. We know that, fundamentally, it is right and this is sufficient to enlist our heartiest sympathies and command our sincerest respect. It must succeed, because, possessed of a firm foundation, the superstructure will eventually be freed of all defects and superfluities and new elements will take the place of discarded ones, so that a noble edifice, one that will cheer the hearts of all lovers of truth, will stand as an enduring monument to its pioneers. Its principles being everlastingly true, the details will ultimately correspond, when it cannot fail to enlist the admiration and cooperation of all honest men.

Hygiene early became mixed with hydropathy and for years the two systems ran along together so intermingling that it is often

difficult to determine into which category a practitioner is to be placed, although the men of the era differentiated between the two systems. Jennings and Alcott are, perhaps, the only Hygienic practitioners of the early period who did not include hydropathy in their practices. Graham was not a practitioner and while his writings contain no hydropathy, it is unfortunately true that he resorted to hydropathic care in his later years and there is every reason to think that this hastened his death.

It was fully recognized that hydropathy and hygiene were separate systems and it was not uncommon to have them say, "water and hygiene agencies," thus distinguishing between hygiene and hydropathy. In 1850 Ronald S. Houghton, M.D., read a paper before the American Hygienic and Hydropathic Association under the title *Hygiene and Hydropathy*, in which he drew a distinct line between the two systems. The name of the Association was, itself, an indication of the distinction between the two systems.

A remarkable syngraphic efflorescence attended the rebirth of hygiene and guaranteed that it should reach the field in ways that its message could be understood. Numerous books were published that had wide distribution; numerous magazines were issued, some of them having but a brief life-span, others lasting for years. These periodicals reached great numbers of people in all walks of life and in all parts of the country. Just as hydropathy came to America, so hygiene went to Europe, where much of it found ready acceptance among the Nature Curists. Indeed, hygiene and Nature Cure had much in common and there is still a tendency among both laymen and practitioners to confuse the two systems.

In general, it may be said that the men who took the most active part in the Renaissance of hygiene worked out different principles, so that, while there was much overlapping, both of principles and practices, there were areas in which there were apparent differences and disagreements. A synthesis of these different principles and practices was needed but was not undertaken until well into the present century. Hygiene is not a syncretistic fusion, but a genuine synthesis. It is a correlation of related and mutually complementary principles giving a uniform and harmonious whole. A new synthesis does not consist merely in adding a number of factors together; it implies evolving a comprehensive mode of correlation whereby the several various factors are integrated into a unified whole. No genuine synthesis of factors can be achieved if these various factors do not normally and genuinely belong together. A forced synthesis will crack open at the seams under test. Any effort at syncretism that seeks to fuse hygiene with the antagonistic principles and practices of the schools of so-called healing must end in failure and disaster.

A reintegration of the elemental factors of hygiene must, of necessity, involve, not alone binding together in one unified whole, all

of those principles and practices that normally belong to it, but also an elimination of all adventitious principles and practices that may have found their way into it. The mistakes of the past, as well as those of the present, must be weeded out to the end that a pure system of hygiene shall emerge. When Trall declared that the greatest room in the world is the room for improvement, he must have had some such forward move in mind, as he repeatedly emphasized to his students the fact that he and the other hygienists of his time could do little more than provide the broad outlines of hygiene and indicate the direction it should take. He stressed the fact that those who were to come after would have to fill in the details and push forward into new territory.

This was no doctrine of eclecticism. Neither Trall nor any of his hygienic contemporaries contemplated anything so impossible as that of "selecting the best" from the various systems of curing and tying them together in a bundle of heterogeneous but often antagonistic theories and opposite practices. Not to the systems, but to nature for further instructions, was their admonition. We control nature by obeying her, but we can only obey her when we understand her. Hence the study of nature forms the solid basis upon which further advances are to be made. We have not reached the limits of further development within the framework of our social equipment; further advance is not conditioned upon, although it may be accelerated by a new social synthesis. Indeed, it may well be that such a new social synthesis is essential to the fullest fruition of hygienic potentials.

Hygiene cannot accept any eclectic mishmash. The only eclecticism an honest man can practice is to select the good and reject the bad. Some drugs are worse than others, but they are all bad, and hygiene rejects them all, as not only useless, but as always and of necessity injurious. We may think that some of the elements of a valid hygiene, all of them normal elements of health, are better or more effective or more immediately beneficial than others, but they are all good and we employ all of them, both in sickness and in health, and make no compromises. On the same grounds, we are compelled to reject the enervating palliatives of the other schools of so-called healing.

The change from the lancet and poisons to hygiene was made by many physicians of the early period of modern hygiene, but it must be recorded that this tendency of physicians to desert the pills and powders, the green tinctures, red lotions, black draughts, shotgun mixtures, and the bleeding, blistering, narcotizing and stimulating practices of the time was strongly resisted by the profession as a whole. In spite of this resistance and in spite of the rank misrepresentation of hygiene by the profession, so many physicians deserted the profession for hygiene and the people turned to hygiene in such great numbers that the profession became frightened. Finally, to save itself,

it went through the motions of adopting portions of hygiene. It was not, however, until 1906 that Harvard medical school offered a course in hygiene and, even then, the course was elective. Desertions of the "ethical" practice of medicine are no longer tolerated by a profession that has since become so tightly organized that it controls the individual practitioner as no religious order ever controlled its priesthood. Any physician who turns from drugs to hygiene today has his professional head taken off immediately.

The doctrines of the Hygienic System are new. Its philosophy has been before the world but little more than a century and a quarter and, although a few persons have studied its basis and mastered its fundamental premises, and many have obtained some general knowledge of its application, the great mass of the people really know very little about it.

The triumph of hygiene is inevitable. The collapse of medicine is equally inevitable. Whether we shall wander for forty years in the wilderness and the desert of medical superstitions and practices depends upon whether or not the people will recognize that their delusions all stem from the same source. Why shall we blindly adhere to a system of practice that was inherited from the grossest ignorance? Why cling to this relic of barbarism? We like to believe that truth will triumph in the end, but for the present, the profession has all the channels of information well sewed up so that they easily prevent the truth from reaching more than a small number of people. Hygiene has a mighty task ahead of it.

CRITICISMS OF MODERN MEDICINE

Chapter 30

In the earlier years of this century, Sir William Osler stressed the fact that a drug-treated sick person has to get well twice: first, of the disease that sent him to the physician; and second, of the disease caused by the drugs prescribed by the physician. Iatrogenic disease was no stranger to Osler and the medical profession of his era. Adverse reactions were as common as politicians at a Fourth of July celebration. The basic criticism of the drugging system is that it treats the sick without reference to the cause of his ailment, by means that are commonly more devastating in their effects than the cause of the disease for which their drugs are prescribed. In the past, at least, it has prescribed its drugs without knowing anything about them.

In his address to the British Medical Association in 1879, Sir Andrew Clark said: "When but a little time ago Sir William Hamilton asked quite seriously if the practice of medicine had made a single step since the days of Hippocrates; when we hear that the leaders of medicine, both here and abroad, are skeptical of the curative influence of drugs upon disease; and when we know that experienced practitioners are divided in opinion as to the effects upon the body as to the commonest medicines, we cannot doubt that this, the highest department of our art, one of its chief ends, is in a backward and unsatisfactory condition."

What do physicians hope to accomplish by dosing their patients with substances that create havoc when given to the well? A whole catalogue of pathological resultants is gathered together under such terms and phrases of untoward side effects, adverse reactions, allergies, allergic reactions, anaphylaxis shock, iatrogenic disease, drug addiction and death, all resulting from dosing with the theoretically "safe small dose." By what logic do physicians hope to sustain the thesis that killative substances are curative?

Writing a hundred and forty years ago, Sylvester Graham properly characterized the medical profession as a mere "drugging craft." This characterization is still true, only more so. When we deprive them of their dearly beloved poisonous drugs they exclaim: "Ye have taken away my gods, and what have I more?" The false gods of the past were deadly drugs in enormous doses; those of today are parenteral introduction of deadly drugs in concentrated form. Heroic dosage has been revived.

Bad as were the old practices, modern practices are even worse. The old practitioners stole some of the patient's blood, the modern physician poisons the whole current. If they bled everybody,

the present day physician is inclined to transfuse everybody. The older physicians blistered and purged; today's breed explore and mutilate.

The most characteristic feature of medicine from Hippocrates to the present has been that of incessant change. Each generation of physician has repudiated the theories and practices of its predecessors and has adopted new theories and new practices. Boasting of their alleged progress one medical writer says, "We no longer poison our patients with mercury or purge them with violent drugs," but he omits to state that these vicious practices were abandoned at the bayonet's point and not because they wanted to discontinue them. The medical historian proudly points to the fact that the profession has "abandoned the deadly practice of indiscriminate bleeding," but he never explains that they gave up the practice because they were forced to do so and that they strongly resisted the forces that finally compelled them to cease bleeding their patients to death. Their alleged progress has been a hop, skip and a jump from one error to another; often a worse one.

The first step in the creation of a science of medicine has never been taken. That drugs ever cure the sick is yet to be proved. This primal fact, instead of being established as a basis of scientific deduction and application, continues to be an assumption which, within the range of human experience, is without warrant. Is there within the reach of recorded history another thing so tenaciously held, so persistently defended, and so regularly employed, while, as yet, the reasons for its employment are so diverse and contradictory?

It has been repeatedly admitted by both physicians and pharmacologists, since the thalidomide holocaust, that every drug is a poison and no drug is safe. This admission does not seem to have made any difference in the drugging practices of physicians. They are still seeking to cure disease by the use of poisons. The medical historian Sigerist makes the comical statement that "the physician has free access to drugs that through ignorance or malice may become poisons." Like most medical men he closes his eyes to the fact that all drugs are intrinsically toxic and do not become so through accidental or intentional misuse. When Sigerist says that drugs "through ignorance or malice may become poisons," he gives expression to the medical notion that a drug may be either a food, a medicine or a poison, according to the manner and amount of its administration. This is the doctrine that a substance is poisonous quantitatively and not qualitatively. It is not intrinsically poisonous, but is so only if taken in too large a dose. The fact is that the smaller dose only means smaller poisoning—this is to say, the results are so small as not to be noticeable. But the repeated taking of small doses results in cumulative effects.

The medical profession holds out to the people the false doctrine that every drug is a poison if taken in large amounts, but that

every drug is safe if taken in doses sufficiently small. Even common table salt, they say, is poisonous in large quantities. The fact is too well known that salt is not safe in small amounts. It is hurtful in any amount and it is cumulative. The argument from the common taking of sodium chloride is therefore a false one. Its very premise—the harmlessness of small doses of salt—is false. Every student of physiology knows that drugs can never be assimilated by the living organism, that they are poisonous and not foods.

It is misleading to say that some poisons are “actively poisonous” and that others are “potentially poisonous.” It is such reasoning that has perpetuated the stupendous fraud of poisoning sick people with the view of restoring them to health. It is equally as absurd to think that a drug is poisonous or not, according to the size of the dose; that is, if given in huge doses, it is destructive, while, if given in small doses, it is healthful and restorative; to believe, in other words, that a drug can be both poisonous and non-poisonous at the same time. It is equal folly to suppose that by compounding a drug-poison with other poisons, a combination may be produced that is not poisonous, but curative. The chemist cannot alter the nature of quicksilver by compounding it with chlorine. It is idle, nay puerile, to suppose that a change in the condition of the organism, as from health to disease, alters the relation of the poison to the living structure, so that after the structure becomes sick, a substance that was poisonous to it in a state of health, is no longer so, but is healthful and restorative.

A vigorous course of poisoning should kill a weak person as quickly as it does a strong one. If the healthy are sickened and killed by a drug, there seems to be no reason to think that it will not also sicken and kill a sick person. A pistol bullet, shot through the head of a strong athletic man, would result in his death as soon as it would the man of delicate and feeble health. I cannot see why the same role will not be enacted by poisons sent into the body through the skin or the stomach. Why assume that it sickens and kills the well and restores the sick to health?

It has been estimated that a hundred bee stings at one time would produce death. Imagine employing this venom as a cure for arthritis. The victims of drugs are beyond computation. The dupes of the poison practice follow each other with unreasoning faith and unquestioned propriety over the precipice that lands them in the unfathomable abyss of the great beyond. The long line of pilgrims into the unknown, who pass through the broad gate of drug poisons, continues as of old.

The physician claims the privilege of adding insult to injury; the right to make you sicker in order to make you better. This is the philosophy of his weighing the possible side-effects of his poisons against the possibility of danger from the disease. This is a judgment

he is ill-equipped to make. As he has never observed an untreated case of disease, he does not know what, if any, are the dangers of untreated disease; hence, he cannot weigh the possible evils of his drugs against the possible evils of untreated disease.

It may be saddening to the average person to think that an ancient institution that is renowned for its love of humanity and posing as scientific should, nevertheless, prove subversive of the purpose for which it presumably exists. The untenableness of the claims of the medical institution is undeniable and the people are slowly awakening to the fact that the system is absurd and erroneous, is responsible for much suffering and a great number of deaths, being not only non preventive but productive of much disease.

Even the most ardent advocates of drugging do not contend that there is any relation between the disease and the drug. None presumes to say that any known disease is the result of abstinence from any known drug. No physician will contend that constipation results from failure to take laxatives regularly; that heart disease results from abstinence from digitalis or strophanthus; that nervous excitement is caused by neglect of tea and coffee. No well-founded theory of cause leads to the conclusion that people ever become ill for lack of drugs. These things being true, how can the administration of drugs be expected to restore health?

Instead of drugs producing health, each and all of them produces disease. Some of them are deadly, even in small doses. If a drug is deadly enough to destroy life when taken by the healthy, it is no less so in disease. Every physician knows that a full dose of any of the stronger poisons is quite as fatal to a sick man as to a well one. No matter that some of them in certain doses seem to restore normal action and condition, their essential effects remain always and ever the same.

The very multiplicity of alleged remedies offered by the medical profession for the necessarily limited number of human diseases, is in itself an evidence of failure of the profession to find a genuine solution to the problems presented by human illness. A more fatal pestilence, a more bitter curse, than the king-craft or the priest-craft, is the physician-craft, which century after century, while all other arts, crafts and sciences, all philosophies from astronomy to cookery, have expanded and stumbled into some degree of light, still gropes and growls in barbarous darkness, feeding upon the bodies of its victims, and making the earth a sepulcher with its loathsome and lethal drugs.

It is both logical and charitable to assume that if physicians realized how much mischief they do with their meddlesome medication, they would withhold their poisons, but they must bleed, and blister, and deplete and stimulate, when all the time the patient would get well faster and better if left alone. The hope of the medical man from

Hippocratic times to the present, to someday hit upon the lucky remedy or the successful plan of care, has led to the adoption of many plans or modes of treatment that are both absurd and destructive. They have been forced to discard their treatments after much trial and suffering although not before their dosing has resulted in much harm. One needs only to read medical writings to stand aghast at the revelations. No system of care of the sick that ever existed is guilty of greater offenses against the sick than this profession confesses.

Not only are the theories of medicine full of obscurity and complexity, its doctrines transitory and fallacious, its methods clumsy and dangerous, but its teachers themselves make the danger and confusion worse by their defective observations and their illogical habits of mind. Always so cocksure, praising the "latest" wonder drug as confidently as once it trumpeted its much vaunted tuberculin seems never to betray those who pin their faith in their specifics, as if the common cold has not defied successfully an endless battery of infallible remedies.

Where are the cures, nay, the hundreds of vaunted remedies of the past ten years? Where, indeed! In the limbo of oblivion, although each and everyone of them had claimed for it, at the time of its popularity, sovereign and unfailing virtues. In spite of ages of failure, medical men are still credulous, still hasty to generalize, still forgetful (if they ever knew) that their pretenses are wrong, their methods are faulty. Failure after failure has taught them nothing. When the editors of medical journals meet together in some quiet corner, secure from observation, do they laugh in each other's face as did the augers of ancient Rome? They must do so, unless, of course, they are lacking any sense of the ridiculous, and are unable to perceive the absurdity of the amazing things they publish week by week, year after year.

It is a marvel that the physician is still in demand in spite of his defects, his rashness, his mounting failure and his so frequent dishonesty. The explanation must be sought in the unparalleled ignorance of the laity who refuse to think for themselves. Instead of medical history preserving for us a record of genuine discoveries of truths and principles and their establishment, so that they may become a permanent part of our intellectual heritage from the past, it is only an account of the follies, ignorance's, caprices, superstitions and credulity's of man. Mankind's ignorance and stupidity in matters of health can be traced directly to the doorsteps of medical superstition. It, therefore, becomes urgently necessary that the superstitions and damaging practices of medicine be exposed.

The confidence in drugs, which invalids continue to manifest, would be amusing were it not so disastrous. Neither physician nor patient undertakes to explain how drugs cure, yet the physician continues to prescribe and the invalid continues to swallow them in the

sublimest confidence in their value. The more physic the people swallow the more sick they become. Physic is no substitute for sensible living. The present attack of the drug pushers upon the very fountain of human existence—the germinal sources of new life in the birth control program—cannot but lead to increasingly greater mischief.

In an article which appeared in a British publication in April 1911, an unnamed British physician said: "If doctors (he means physicians) prescribed physic to any considerable extent, it is not because they believe they can influence the progress of their patients towards recovery, but because the sick folk and their friends would consider the doctor negligent if he did not order remedies more or less nasty in daily quantities to be administered at stated times." He tried to hide the character of these more or less nasty "remedies" by calling them placebos and declared them to be "usually perfectly harmless."

It is doubtful if any placebo can be truly said to be "perfectly harmless," for if it does nothing more than "make the invalid believe," to further quote the unnamed physician, "that he is receiving proper care and attention," it cultivates a reliance upon drugs and encourages a neglect of vital factors that are of utmost importance. But we do not believe that physicians prescribe their physic only because their well brainwashed patients demand them, but because they believe them to be useful. Certainly they devote enough effort to persuading the public that their very lives depend upon these various types of physic, and enough money and time in research for new drugs to indicate that they believe in the virtues of physic. They and they alone taught the sick and their friends to expect and demand drugs to be taken in daily quantities and at stated times.

Why shall medical colleges go on year after year teaching the same old theories and methods that have so consistently and persistently failed in the past? The teaching of failure does not stamp the profession as scientific. We may smile pityingly on the curative arts of those people whom we designate savages, but we could get a good picture of our own physiological ignorance if we could but stand off from ourselves for a reasonable distance and view our pill taking.

Drugs mask symptoms and disguise the condition of the sick individual. A writer in *Saturday Review* (Oct. 7, 1961), discussing the first voyage of a human being around the earth in outer space, Gherman Titov, says of the suggestion that he must have been drugged, before the take-off: "That is the first reaction I get from people with whom I have discussed Titov's performance. It isn't a logical reaction. Drugs would have defeated the main purpose of Titov's flight, which was to discover how the human organism responds to prolonged weightlessness and loneliness. Tiny instruments were taped to Titov's body to measure his heart beat, breathing and

other indications of mental and physical functioning. Administration of drugs would have removed the meaning from all these readings."

This is precisely what we mean and have meant for years when we have declared that drugs mask the condition of the patient; when we have said that after the first twenty-four hours of drugging no physician on earth can tell the true state of his patient. They smother symptoms; they create and maintain a false picture of the functioning of the body. When fever is thus reduced, pain is silenced, the heart beat is altered, the patient is stupefied (mistaken for sleep) and other symptoms are thus changed by drugs. What is the actual state of the patient? Who can tell? Drugs rob the symptoms of all their meaning.

The fatal kindness of the physician is often responsible for death that except for his watchful care and devastating treatment, would not occur. How often do we read in standard medical works, words about as follows: "There is no specific for the disease, and treatment therefore resolves itself into the adoption of such measures as are found to be useful in relieving symptoms." Look at the table by the bedside of the sick and ask yourself: What does all of this mean? Why all this array of warlike implements? Why should this sick man be dosed with penicillin? Do we add to the powers of life by stimulating the patient to the point of exhaustion? The folly of producing two or three days, if not weeks of irritability of the whole alimentary canal, by administering cathartic poisons, should not escape the notice of the reader. Treatment grounded upon erroneous diagnosis and indefensible in the light of latter developments, has always been scientific practice while in vogue.

The full-throated, often lachrymose sentimentality all too often displayed in defense of the profession, exhibits man in his worst vein, lacking penetration and understanding. A certain emotional prepossession, which both the educated and the ignorant evince towards the heroic physician and his beneficial practices is a serious obstacle in the way to the discovery of the truth about this false and fatal system, and this prepossession has not only been shared, but promoted by our educators. I confess that, as a boy, I too shared this emotional regard for the beneficent figure of the "family physician" (there were few specialists in those days), but I lost, at an early age, this cultivated faith in the virtues of both the physician and his drugs.

The heterogeneous collection of illogical theories and damaging practices that are called the science of medicine will survive as long as the public prefers to remain stupid. Instead of a complete revolution, we are asked to accept changes and adaptations within the drug system. People who have been brainwashed from infancy by the medical profession and are under the influence of this profession, will accept their statements and echo them until medical science undergoes another change and admits that it was wrong before, although insisting

that it is right now. It seems that the young practitioner cannot become convinced of the inutility of his drugs except through hard-earned experience and frequent disappointment.

When a cure for a disease is discovered and brought into general use, and the disease continues to increase in incidence and the death rate continues to mount, what is to be thought of the cure? An example of this kind may be found almost anywhere we look. I will here enumerate but two instances of this kind—Banting's discovery of the cure for diabetes, and Flemming's discovery of the penicillin cure for pneumonia. The profession wildly acclaimed both of these cures. The profession is never so hopelessly wrong as when it is unanimous in its views and practices. The universality of the bleeding practice and the purging practice are cases in point.

We have said very little about surgery in this survey. Surgery and medicine had separate origins, surgery coming into existence centuries ahead of the drugging practice, and the two had parallel evolutions. Great progress has been made in the surgical art, surgeons growing more daring as their skills have increased. The result has been a lot of useless surgery. It is now admitted that there are more than three million useless operations performed every year in this country. Does the exactness of surgery make it safe? Does the undoubted skill of the surgeon make the surgery remedial? Should the tonsils, for example, be removed merely because the surgeon can do it very skillfully?

Medicine has always been carried on as a trade, and when we consider the free hand that physicians have been given, one may easily understand how the unscrupulous may abuse the privileges they enjoy. It is folly to deny that such abuses have been indulged or that they are now practiced, for we know the contrary to be true.

The profession likes to have the public believe that it holds the health of the people in its hands as a sacred trust. Each member of the profession pretends to be interested first in the health and welfare of its patients and only secondarily in any personal gain which may flow from the patient-physician relationship. Any disease-treater who leads his patients to believe that he sustains such a relationship to the sick misleads them. He is interested in cultivating the sick habit and in cultivating dependence upon himself, to the end that he may swell his income. The practice of having each patient who has a trifling back-ache or a headache, strip and be examined by sounding, drumming and kneading and tested by speculum, stethoscope and by laboratory tests, is part of the professional paraphernalia for making an impression. Worse yet, this is but the prelude to or preparation for a long course of drugging.

On a mass scale epidemic scares are frequently employed to increase the business of physicians. The demoralizing influence of the

frequent epidemic scares, such as the predictions that a flu epidemic is slated for the fall, is obvious to all. These scares are deliberately used by the profession to increase its business.

The profession is well organized, it is entrenched in the church and state, has the backing of wealth and industry and the confidence of the majority of the people in Europe and America. It deserves to slip over the precipice into oblivion, but it is not likely to do this. Medicine will not vanish. It will remain until overthrown.

CHAOS AND TYRANNY

Chapter 31

After twenty-five centuries of the practice of medicine, there is still no science of medicine. It is still lacking in well-defined and demonstrable principles. They have been experimenting for twenty-five centuries, and now find more need than ever for experimentation. When will it end? Medicine's pet notions and practices passed—bleeding, purging and antiphlogistication—have been relegated to the superstitious past. Wrapping the fever patient in hot blankets, closing all the avenues for the entrance of pure air and keeping him crying for water with which to quench his thirst, while stuffing him with milk and brandy, is no longer the medical vogue. These and other relics of barbarism have died. These heroic practices were not confined to desperate cases; indeed, desperate cases were made so by heroic treatment of trifling ailments.

What are we to think of a medical system which every few years repudiates the practices and theories it has been propagating and has continued uninterruptedly to do for twenty-five centuries? Is this reason to believe that its theories and practices of today are more reliable or have more permanency about them than those of the past? Do we not witness a constant change, both of theory and method, right under our eyes at this time? Truly, it is a system founded without principle and practiced without reason! No wonder, then, its faults and fallacies are continually being exposed!

The present reigning school of medicine may be said to have resulted from a gathering together of the medical cults that existed in Europe and America during the eighteenth and nineteenth centuries. There were several of these schools and the present school grew out of them. It adopted and retained the fundamental dogmas of the older and now defunct schools. It has the same conception of the essential nature of disease as that developed during the Dark Ages. Its practices are but an extension of the poisoning practices that began with Hippocrates but that received their first real shove during the Renaissance. That it has freely appropriated much of the past does not, however, lend to it the great antiquity its "historians" attempt to create for it.

Have you ever thought of the reason why, for centuries, we have witnessed the rise and fall of so many schools of healing, why there has been so much charlatanry and imposition in the name of medicine, why there have arisen so many new systems of treating the sick, so many pretenders and so many patent medicines advertised to cure diseases, which they will not cure? All of this nightmare of

empiricism and pretense has arisen out of ignorance and false doctrines. Neither the people nor the professionals have understood the nature of disease, nor the true character of those substances with which they have sought to carry on a warfare with disease.

I would be the last to deny that there is a great amount of genuine science in anatomy, physiology, biology, chemistry and the collateral sciences that are commonly, though inaccurately called medical sciences. But, I insist that the practice of medicine is not based on these sciences. When science is jumbled with superstitions we end up with an incongruous medley of fact and fiction; one that exemplifies the truth of the statement of Herbert Spencer that "When a man's knowledge is not in order, the more of it he has, the greater will be his confusion."

So-called scientific medicine, while it has circled the globe, is trusted and patronized by fewer people than we commonly think. Indeed, its doubtful services are not available to a greater part of the population of the earth. Again I am supported by Sigerist who says, "Ancient traditions are still alive today in many countries. We often forget that our modern scientific medicine reaches only a relatively small group of people, over half the population of the world has no share in it."

We do not have to go away from home to find huge armies of men and women who have no confidence in the reigning school of medicine. In America alone there are nearly three hundred thousand practitioners—an enormous army—representing varied schools of healing with opposing theories and practices, each charging the other with killing their patients. What a spectacle! Imagine the presence, in modern society, of two or three schools of chemistry or of astronomy, with innumerable charlatans and irregulars in addition, all claiming to represent the true science! It is true that the teachings and practices of the schools of medicine are constantly changing, but they go round in a circle. The immense panorama of anarchy and futility which is modern medicine, is pointed up by every issue of every large daily newspaper in the land. They are filled with stories about new discoveries, new cures, near breakthroughs, and the swan songs of yesterday's discoveries and breakthroughs.

Most of these schools of medicine claim to be, or attempt to be, eclectic, that is, they attempt to select the best from all systems. Most of these eclectic systems are but stereotyped editions of discordant dogmas and contradictory theories, which are chiefly the offspring of the imaginations of ingenious men. All of them are entirely lacking in any true guide to the practitioner in his care of his patients, and are unworthy of the confidence of informed and intelligent man.

The pretensions of the reigning school of medicine to historic authority are neither few nor moderate. For there is no profession that

boasts more of its alleged antiquity—none more of its research and great learning—none that makes higher claims on account of its ancient records and accumulated wisdom. It proudly recounts the names of its illustrious fathers, offering their opinions and sanctions as evidence of its worth, as though the worst kind of undignified empiricism and the wildest speculations and weirdest notions, as promulgated and practiced by these fathers of medicine, constitute anything more than a sure basis for utter condemnation of the ancient and antiquated dogmas that underlie all medical practice. It would prove interesting to learn how many of those present day medical men, who are constantly preening themselves on the antiquity of the profession, are really conversant with its history and origin.

It is the general ignorance of the people upon this important branch of history that enables the members of the medical profession to browbeat the minds of the multitude with the authority that their hoary antiquity is supposed to entitle them. Men have an apparently natural veneration for ancient usage's, especially for those that have been carefully handed down through channels of credible and indisputable authority. When these usage's have been put fairly to the test and have seemed, however false, to be trustworthy, they become permanent fixtures in the life of society.

It is due, however, to popular ignorance of medical history that the present reigning school of medicine can lay claim to antiquity of origin and parade its assumed long history as a ground for its authority. The oldest school of medicine in both Europe and America today is the homeopathic, and it is less than two hundred years old. It has been said that we owe a great debt to homeopathy which, it is said, did a great deal to "destroy the homicidal mania of physicians of the past." But this debt is not owed to any of the systems of drugging which served to keep alive the faith in drugs. The Hydropaths, Hygienists, and other non-drug schools really helped to compel the profession to abandon its heroic dosing.

I think that, without reference to the school of thought and practice to which the disease-treaters belong, it would be well if each man would announce very frankly that he devoted his attention to the palliation of symptoms or that he seeks for and removes causes. This would enable the sick person to intelligently choose the kind of care he desires.

The immediate threat to us here in America is medicine. For seventy years we have had in our midst medical men and organizations that do not want to let the people live. Constantly they interfere in the lives of the people, and in the decisions made by the civil powers. At the same time, they represent themselves as the saviors of our health, a health which, if real, would prove to be their undoing. The undeviating consistency with which the medical organization pursues its object,

undeterred by considerations or thoughts alien to its interests, can be recognized by one who has watched the profession for many years. Others hardly sense the danger of the medical tyranny that is slowly being fastened upon the people. The profession is implacable and pitiless because it believes that it is the highest type of the human species and that its predominancy cannot fail to be pleasing to the Almighty.

RESPLENDENT HORIZON

Chapter 32

So long as disease was regarded as a dispensation of divine providence, and the gods were thought of as the healers, mankind logically resorted to prayer and other religious modalities in its effort to free itself of suffering. When it came to be thought that disease is due to the invasion of the body by evil spirits, rites of exorcism were logically devised and employed. When disease came to be thought of as due to natural causes, the theurgic and thaumaturgic means of freeing man of his illnesses ceased to have any logical validity. It was quite natural for man to seek for other means of restoring health to the sick. So long as the processes of healing were not understood and man thought that the power to heal resided in substances and things outside of him, he logically sought for extrinsic means of healing, and a healing art was a logical development. The system of medicine, as we know it today, was a logical development out of the fallacy that healing power resides in extrinsic sources.

When the truth dawned upon man that the healing power is intrinsic to the living organism, that it is a normal process of life, that healing is a biological process and not an art, and when the processes of healing were studied and came to be, at last, partially understood, there was left no ground upon which to build a healing art and no longer was there any reason to attribute healing power to extrinsic substances and agents. Logically, medicine or the art of healing should have joined theurgy and thaumaturgy in the limbo to which false theories and false practices are relegated. That this will ultimately take place cannot be doubted, but the practice is sufficiently well organized and entrenched in the total social structure, its plant structures and commercial importance are such, and its hold on the public mind is so strong that it will continue to successfully resist all efforts to reveal its utter fallacy and its stark destructiveness for a considerable period. Like theurgy and thaumaturgy, which are still practiced, it is destined to continue on for a lengthy period, even after a sane mode of care has become general.

As all healing takes place by means of intrinsic forces and processes it occurred in man long before there was a priesthood and before there were temples; it occurred before the advent of the magician and before there was a physician; it took place in man, as it does in the lower animals and in plants, without the assistance of any alleged therapeutic measures of any kind. The sources of this healing depended upon certain normal, easily accessible elements of living that were everywhere as available to primitive man as to the lower orders.

The successful operation of the power of self-healing that is possessed by every living organism must not depend upon some accidental discovery, nor upon something upon which man stumbled in his blind groping, nor yet upon some result of painstaking research, but upon something that has been with him from the beginning of his existence. Indeed, since the principles and practices of such a system apply to all life, it must have been in existence before man appeared on the earth. It must have come into existence with the beginning of life and will last so long as life continues to exist.

This is not to say that man may not, by research and discovery, learn to understand the principles of such a system of care and acquire greater skill in their application; merely that such research and understanding arrive subsequent to the origin of the system itself. With these considerations before us, let us inquire further into the requirements of such a plan of care, one that did not depend upon the acquisition of science to render it possible.

A valid system of mind-body care must have a timeless validity that belongs not to the works of man nor to the passing medical systems. It must be without father and without mother; without beginning and without end. It must be from everlasting to everlasting; it must be contemporaneous and coexistent with life; must have its roots in the very essence and synthesis of being; its principles must be the principles of biologic existence; its primal elements must be founded in the indispensable needs of life; its practices must be founded in the constitution of being; it must be an integral part of the very process of living.

A valid plan of care, both of the well and of the sick, must be normal to life; must have its roots in life itself. It must be intimately bound up with organic being, must be coeval and coextensive with life. It must not only be a part of life, but must be correlated, and normally so, with everything else in life. It must be a natural product, a spontaneous growth, not a forced state that can be only artificially and temporarily maintained. Whatever is separate from everything else in life is no part of normal life and can have no genuine place in the normal scheme of organic existence. A plan of mind-body care, to meet the needs of the organism, both in health and in sickness, must not only be coeval with life, but must meet adequately, the basic needs of life and must be able to adjust to the varying needs of the organism and to its varying capacities to appropriate and use these needs in its various and varying conditions and circumstances.

No system of care that is adventitious or foreign to the primal ways of life or that brings into use measures that have no foundation in the fundamental laws of being and that supply none of the basic organic requirements can possibly meet the genuine needs of the living organism in either a state of health or in a state of sickness.

As the living organism, well or sick, is the same organism and as there is no radical change in its structures or its functions and no radical change in its elemental needs in the two states of existence, we need a system of care that is equally applicable to both the well and the sick. The laws of being are the same in the most vigorous state of health and in the lowest depth of disease; the constitution of being does not change with the varying states of being. We need a system of care that does not do violence to this constitution merely because the organism is sick.

None of these essential requirements are met by any of the schools of so-called healing, whether it existed in the past or exists today. The continuous search for more effective *cures* and immunizers signifies a total lack, in the systems of medicine, of valid underlying principles that the physician may use as guides in his care of his patients. From Hippocrates to the present, none of the many schools of medicine have answered to the requirements of a valid system of mind-body care. The schools of healing that now exist, that rely upon the many and various drugless modalities, are as devoid of valid principles as is the medical school. Subconsciously, all of them seem to sense the need for an elemental approach to the problems of health, disease and healing; hence their growing efforts to show that their systems are older than we have thought.

Medicine, no longer content to trace its origin to the traditional Father of Physic, makes every effort to trace its origin to the practices of primitive magic. Although Dr. Benedict Lust, once called the Father of Naturopathy, once said to me that "Naturopathy began in the Garden of Eden," most present-day naturopaths are content to trace naturopathy to Hippocrates, who, they say, was the Father of Naturopathy. Chiropractors are busily engaged in building up the myth that Hippocrates was the Father of Chiropractic. It is asserted that Hippocrates "adjusted" subluxated vertabræ and that D. D. Palmer, once recognized as the Father of Chiropractic, was able to read Greek and came upon the instructions of Hippocrates for "adjusting" the different regions of the spinal column, while reading some ancient Greek books. (The ancient books are asserted to have been illustrated with wood cuts.) Naturopathy is also seeking an ancient pedigree. Hippocrates seems to have spawned a large group of illegitimate brats.

None of these systems, even if its claim to antiquity is valid, is old enough to meet the requirements of a genuine system of care. Hippocrates arrived on the scene rather late in human existence. We must have a system of care for both the well and the sick that antedates Hippocrates by great stretches of time. The claim of medicine that it evolved out of primitive magic, while correct, serves not to validate its claim to being a genuine system of body-mind care, but to condemn it. For not only was the system of magic a Johnny-come-lately in the life

of man, it was a false system in all of its essentials. Already, I have shown that Hippocrates, whether wittingly or unwittingly, was instrumental in heading the race down an erroneous course and that he led mankind away from the primeval ways of life upon which the pristine vigor and wholeness of the race rested. He was definitely not the Father of Hygiene.

There is a system of mind-body care that meets all of the requirements we have set forth as essentials of a valid system of caring for the well and the sick. Hygiene and hygiene alone, meets these requirements. It came into existence with the beginning of life and will last as long as life lasts. It is not a man-made system, but is rooted in the very elemental constitution of organic existence. We have previously shown that the basic needs of life were met by man, as by the lower animals, and that only in the primitive way is this still possible. Before there was a system of magic, before there was a priesthood, before there was a temple, before there were even the rudiments of a medical system, before there was a physician, there was hygiene. The truth of this has been fully demonstrated in preceding pages and need not be gone over again at this place.

Let medical men derive all the satisfaction they can out of the fact that their practices grew out of the superstitions of the past and especially out of the practices of magic. The Hygienist is happy to know that Hygiene had a nobler origin and has nothing in common with the superstitions that formed the basis of medical practices. The hygiene of pre-history was firmly based on the needs of life as these were manifested by instinct, discomfort and hunger. The hygiene of the present, which is but an extension of the hygiene that man practiced from his origin, is firmly based on valid biological and physiological principles. It is inconceivable that man's instincts should have misled him more than do the instincts of the lower animals, but it is a cause for rejoicing that we have discovered and verified principles we may safely use in our application of the means and measures of hygiene.

That in both the past and present, hygienic practices were and are employed coincidentally with the superstitious practices of the shaman or even with the destructive practices of the physician, does not detract from the superlative value of hygiene, nor does it indicate that hygiene grew out of such magical practices. Hygiene has its basis in the needs and nature of living organisms and we cannot trace its beginnings to the stupidities of ancient priesthods. The systems of medicine that have grown up since the days of Hippocrates have led man away from the simple paths of nature and caused him to rely less and less upon the normal and richest sources of vitality which nature possesses (and he has ceased to turn these to valuable account) into a bewildering and confusing labyrinth of baseless hypotheses and a stupid reliance, more and more, on drugs and deadly practices.

The truths we have inherited from prehistory are among the most important that we possess. Although somewhat mixed with the magic of the shaman and the priestcraft, the fact stands out in bold relief, that long before there was a medical profession, long before there was a shaman or a priest, mankind relied upon hygiene when well or ill. There were obvious modifications to the ways of life, so that the sick man's hygiene, although fundamentally that of the well man, was adjusted to his modified needs. Healing is the direct result of man's own instinctive self-preservation efforts and, in no circumstances, can be performed either by the priest or by the physician with his bag of tricks. Instinctively, the sick or wounded animal selects its diet or alters and lessens its food; it seeks rest and seclusion, abstains from food, even from water, when ill. Man did the same and did a fine job of caring for himself long before there were any physicians.

Although we know more of biology, physiology, anatomy, pathology, etc., than did our ancestors, and should, as a consequence, be better able to apply these than was primitive man, it is obvious that the system of hygiene that we practice today is man's primitive way of life. It should be pointed out in this connection, also, that although hygiene has been much neglected and abused, even, at times, since the days of Hippocrates, derided and prohibited, it has never been completely lost by man; nor, indeed, can it be without ending his existence as a species.

Man's early hygiene was a practical and instinctive employment of the essentials of life; it was brought with man into the historic era and continued to be practiced in a very effective way right down to the beginning of the Dark Ages. The revival of *Hygiene*, which occurred more than a century and a quarter ago, rests upon theoretical grounds that cluster around certain well ascertained and demonstrated principles of biology.

The theories and practices of hygiene are coextensive and complement each other. Early man's hygiene may be designated informal, as it was unplanned and undirected, as contrasted with the hygiene of the present, which is planned and directed according to principle. This is not to imply that the instinctive hygiene of early man was inferior, but it does mean that it was carried out with less conscious understanding of why and, perhaps, often under very unfavorable circumstances. It may also mean that our adjustments of means to ends may possibly be more precise than those of our primitive forebears. Constant efforts to produce perfection of the techniques of application of hygienic factor-elements and greater resources at our command than had primitive man, who was essentially limited at all times to the meager resources of his immediate environment, may provide us with a better coordinated and integrated system of hygiene, but we have no definite knowledge that this is so.

Genuinely scientific mind-body care, the type of care and the principles and practices that make possible the achievement of potentials and that contain the capacity for future development, can rest only upon a recovery and revival of primeval ways of life. This must constitute the basis of any real science and art of living. It is only out of an understanding of our own lives and our relationships to the world about us, an understanding that is supplied by the science of life (biology), that we may find our way back to a normal mode of existence and learn to live in any vital and valid sense.

Hygiene belongs properly to that branch of biology that is designated bionomics or ecology. Insofar as biology is a true science of life, it constitutes a critical body of thought against which any new formulation of ways of life must be assessed. Physiology and bionomics are the two most important branches of biology for us to understand to the end that we may understand the basic needs of life. Psychology properly belongs to the field of ecology, and is not to be despised or neglected. Sociology is important, although perhaps not as fundamental.

For all practical purposes, biology is a "modern science." It is true that man in the "new stone age" had domesticated many animals and cultivated many plants and that, at a much later time, Aristotle had attempted to establish a science of life, but these rudimentary beginnings of our knowledge of life meant little to our ancestors. Only during the past hundred and fifty years has biology been sufficiently advanced to make any real contributions to human life and society. It is important to note in this connection that Graham and Trall especially, of the early pioneers of the Hygienic Movement, relied heavily upon physiology and the other departments of biology as a foundation for their work.

Medical men of the past, encouraged by their exaggeration and often fantastic belief, a belief they have not abandoned, that herbs possess curative powers, studied botany, but it can hardly be said that this branch of biology contributed anything important to our ways of life. If, today, medical men study chemistry, in the belief that chemicals possess curative powers, the present study of chemistry is as superstitious as was the prior study of botany. If chemotherapy has largely supplanted the phytotherapy of the past, it is no more successful in restoring man to health.

The more thoroughly the special topics of man's general welfare are probed, the more to presuppose a correct grasp of organic principles and the more they exemplify the fact that man and his problems are one with those of the rest of organic nature. If this fact is acknowledged, it becomes possible to demonstrate that nature has provided a place for man, a being as natural as any other animal in the web of life, and has amply provided, in the normal course of existence,

for his needs. It becomes at once apparent that there is no legitimate place in human life for the employment of exotic elements. The primordia of existence are found in the normal factors of life, not in adventitious and foreign elements that have no normal relations to the living organism.

It may be said that this principle is valid, so far as it relates to the healthy state of existence, but that in disease something more than the normal factors of existence are required. To this, hygienists reply that sickness does not produce any radical change in the living organism. Its basic needs remain the same. It cannot make use of materials when it is ill, that it lacks the capacity to use when it is well. If it cannot use a poison when well, it is not so radically changed, when sick, that it needs and can use poisons.

The hygienist seeks to adapt to the sick organism the same mode of living, modified only by the conditions of the body and its ability to utilize the elements of healthful living, that it enjoyed when well. No new elements are required—merely an adjustment of the regular or normal elements. If the well organism needs much activity, the pneumonia or typhoid patient needs more rest and less activity; if the vigorous active man needs food, the man in high fever, with the digestive function suspended, needs no food. This adjustment of means to capacity to constructively utilize is the essence of hygienic care of the sick.

The processes of the living organism, most of which are below the level of consciousness, are a reality and not just a word or concept. It is upon these processes and not upon some extra-vital process that the physician may introduce from without, that we must depend for recovery from injury and a state of illness. These processes can work with and only with the normal elements of living. This is to say, if mercury is a poison to the healthy man, it is equally a poison to the sick man. If it is non-usable by healthy cells and tissues, it is equally non-usable by sick cells and tissues. If the healthy organism is equally unable to transform it into living structure, the sick organism is equally unable to transform it into cell substance. It simply does not fall within the power of living processes to transform substances into flesh and blood and bone and use them to carry on functions, when the organism is sick, that they cannot transform into organic structure and use with which to carry on organic function, when the organism is in a state of vigorous health. Whatever is poison to the well man is poison to the sick man and whatever produces disease in the well will also produce disease in the sick.

As a fundamental basis for the practice of hygiene, in all care of the sick, we shall use nothing that to a man in health would be injurious. It is only reasonable that if a thing is injurious to the well it will be equally or more hurtful to the sick. Indeed, the stronger the

person, the more successfully can he resist injury, whether this is external or internal, whether due to ignorance or to carelessness in administration. It has never yet occurred that the character of the administration changed the nature of the thing administered or altered the effects of it. However great the physician, this has never altered the quality of his poisons nor changed their affects when administered to the patient. Arsenic given by a physician is as certainly a poison as when given by a layman. If it is given by the latter with intent to kill and by the former with the intent to cure, the intention of the giver does not change the nature and effects of the poison. A degree in medicine does not confer upon the physician any power to transform a poison into an innocent substance.

What is given to the body to do good, to save and not to destroy, must hold to the human body relations that are naturally congenial, so that its influence, when taken in health, shall be good and not disease-producing. Health and the best means of promoting it cannot be studied in the sick, but its needs are best ascertained in the most perfectly healthy. By such a study we gain a fair indication of the normal wants, thus we are able to know what are genuine wants of the sick body. The wisdom displayed in the employment of those materials and measures that are legitimate elements of the human way of life and the avoidance of those agents known as drugs, the legitimate effects of which are destructive, determines the difference between recovery and death.

Defined, hygiene consists in a rational and methodical use of every essential of life, both in health and disease. It preserves health and restores it by the employment of those elements upon which healthy existence itself depends. Indeed it is correct to say that life simply cannot come into being and cannot continue to exist in the absence of these elements. To state this differently, the elements of hygiene are those elements of nature which bear a vital relation to the human constitution; they are those things most intimately associated with the phenomena of life—light, air, water, food, temperature, activity, rest and sleep, cleanliness and emotional poise. Hygiene rejects all poisons and enervating palliatives and calls to the assistance of the organism, both in health and in sickness, the elements of health.

Rejecting all the evils of the schools of healing, and employing only beneficial measures, hygiene restores health as it preserves health, with the normal and indispensable needs of life. It neither bleeds nor maddens, nor stupefies, nor transfuses, nor depresses, nor intoxicates. Hygiene seeks to restore the vital functions to their natural harmony and highest vigor by the use of the very substances and conditions of existence upon which harmony and vigor depend. It seeks the elimination of poisons from the body; it does not introduce new ones. If this plan does not immediately appeal to your intelligence, as being

superior to the plan of poisoning the sick, I invite you to give the matter serious thought and urge you not to dismiss it as the chimerical notion of some half-witted fanatic.

Hygiene affirms its supremacy and its timelessness, and its acceptance by the peoples of the world will result in eventual oblivion for the schools of so-called healing. The modern hygienist, having discarded the concept of cure, which he recognizes as a voodooistic notion, and having discarded the term cure, along with the efforts to cure, does not employ the rather vague and somewhat mystic phrase: it is nature that cures. He understands the healing process as a biological process, one that goes on within the living organism, one that is carried out by the living organism; he recognizes that the healing power is intrinsic to the living organism and that it does not reside in anything else. Healing is not an art practiced by a healer, it is not the result of medication and treatment, but a result of the lawful and orderly operations of functions and processes that are normal parts of life itself. The healing power is wrapped up in the sick organism and this power is mighty to save if not interfered with by cure that is more pathogenic than the original cause of trouble.

Hygiene is a system of mind-body care that consists in the use of such means as, when applied to a man of health, will tend to keep him in health and will not tend to make him sick. This is a radically different approach to the problems of health, disease and healing than is made by medicine. The treatment of the sick, as administered by medical men, consists almost wholly in the use of means which, if given to a man in perfect health, will unfit him for work or business or, perhaps, put him in bed or even kill him. While, from its inception in sacerdotal practices, medicine was and is anti-natural and anti-vital, hygiene, from the beginning of man's life on earth, was in harmony with the laws of his being and the needs of his existence. The broad and distinct issue between the Hygienic System and the drug system is this: Hygiene seeks to restore health by means of healthful agents and conditions; the drug system seeks to cure disease with agents that are well known to produce disease in the well. Instead of filling the bodies of the sick with poisons, why not look to sleep, rest, physiological rest, fresh air, sunshine, warmth, exercise, cleanliness, plain, simple and wholesome food, and mental poise as means of restoring health? Why not seek to find and remove the cause or causes of disease instead of carrying on an endless and fruitless search for cures?

We hold that a valid system of mind-body care must be coeval with life and that no medical system that has ever been devised meets this requirement. Natural Hygiene, on the other hand, represents, in a very literal sense, a return to the practices of prehistory; it is a going back to the primordial requisites of life for the means of caring for both the well and the sick. It is a reliance upon the same primitive

sources of organic needs with which to supply the needs of the well and the sick that primitive man relied upon. Hygienists have repudiated the false and artificial systems evolved by the priestcraft and their genetic successors, the physicians, and returned to the original sources of succor for the elements of a valid hygiene. We have more knowledge of the body and its requirements, we have more understanding of the processes of life, both in health and in sickness, but with all our advances in knowledge, we must still rely upon food, air, water, sunshine, temperature, activity, rest and sleep, cleanliness, emotional poise and fasting as our materials, both of sustenance and restoration.

The grand object to be attained by the present day hygienist, is to awaken modern man and to recall him to his original normal way of life, one that is vastly superior to the conventional life of the present, and, finally, it is to restore to him the everlasting order to which he is constitutionally fitted. This will result in a definite restoration of man's primordial wholeness, which we have lost under the depravity of our lives. Man's un-hygienic practices do not grow out of heresies that were generated within the framework of primitive hygiene, but are, in fact, alien practices that may be said to have been born of the impure womb of shamanism and to have crept into man's life as a result of fortuitous contacts and priestly, medical and commercial conditioning.

All further progress that we may make in hygiene will only be a better understanding and better application of that which was perfect at the beginning. In our "progress" we must go back to primal ways; we must restore man to his lost heritage; we must weed out of his mind his myriads of accumulated fallacies and remove from his ways of life hurtful adventitious elements that now encumber it. A deeply significant meaning is enfolded in the cry, "Back to nature," by which is not meant, "back to savagery" or "back to animalism," as many seem to think, but a return to those primal ways of life that perfectly meet all of the basic needs of the living organism, whether well or sick.

The practice of hygiene grows out of the plainest truths; so far as it is a system, it is founded in the nature of things. The system has roots so deep that they penetrate into animal instinct itself. Man lost much and gained nothing by his departure from the simple normal ways of life and by his cultivation of many and varied abnormal practices. The fact is that the ways of life that violate the laws of life are the causes of disease and there is no escape from this conclusion. Attempts to prove otherwise run into contradictions that deny the premise.

Hygiene has the eminent distinction of being a doctrine unrefuted but dismissed. It is rejected, yet opposed by nothing. The people who ignorantly scoff at its principles and practices do not know just what to say negatively or affirmatively about its principles and the ways of life these call forth. They reject it on about the same grounds

as those of the little boy who said to his friend: "Go ahead and say it, I won't believe you anyway." Indeed, it may be truthfully said that in every instance, where hygiene is rejected, this is done without due investigation. People and practitioners reject it out of hand, without taking the trouble to understand what it is they are rejecting. It is our firm conviction that a full and candid investigation of its principles and practices will always result in a full acceptance of both its principles and practices, except where there are economic compulsions that render its acceptance impossible.

EDEN RESTORED

Chapter 33

From the ancient Sanskrit comes a thought that reveals that our ancient ancestors were not the fools we like to think they were: "Yesterday is but a dream and tomorrow is only a vision, but today well lived makes every yesterday a dream of happiness and every tomorrow a vision of hope." The emphasis here is placed upon living—today well lived—and not upon some magic process, such as the shaman and his successor, the physician, might offer. Before there were physicians, before there were magicians, before the advent of the shaman, back of the time when the first priest appeared, mankind depended upon a way of life to keep him in health and to restore him to health. As has been amply shown in the preceding pages, we get more than mere glimpses of this way of life in the ancient writings that we possess. In Homer, in the Bible, in the other ancient scriptures more than mere fragments of this pristine way of life are found mingled with the magic practices of early civilized man. Nor had our civilized ancestors lost all appreciation of the supreme value of this pristine mode of existence.

Deep within the human constitution lie written laws of nature that should guide man in the conduct of his life. They are there to be disclosed by candid and unbiased investigations. When we fully understand man and his normal relations to the rest of nature about him, we shall be able to offer him an infallible code of physiological and biological conduct as a guide. At present our scientists, instead of trying to fathom the depths of human nature, are busily engaged in finding flimsy pretexts for the continuance of ways of life that are easily shown to be ruinous. Both the economic order and the habits of living of the scientists themselves determine them in this wrong direction.

So long as physiologists, biologists and physicians continue to smoke, they will not make a serious effort to determine the real relationship of tobacco to the living organism. So long as they continue to indulge in alcohol, they will not teach mankind the truth about this protoplasmic poison. So long as they continue to drink tea and coffee, how can we reasonably expect them to even sense the truth about these poisons? So long as the manufacture and sale of these popular poisons is an integral and richly profitable part of our economic order, and the very jobs of the physiologists, biologists and physicians depend upon upholding the economic order, how shall they make a candid and unbiased investigation into the relations of these substances to the human organism?

Many wild animals may be taken with little difficulty by getting them drunk. But it is first necessary to hide the alcohol in enough sugar, syrup or honey to conceal it from their senses of taste and smell. We may be positive that the senses of taste and smell of primitive man were as reliable as guides to what to take into his body as they are in the lower animals. Man was no more left unprovided for in the ways of life than were the animals below him. It seems certain that his normal repugnance to such substances as alcohol, tea, coffee, tobacco and other poisons, including the drugs of the physician, which repugnance, in the time of the pristine purity of man's senses, was much stronger than at present, must have been broken down and overcome by a powerful psychological influence, such as that exercised by the shaman, the priest and the physician. These have not only been responsible for the introduction of such poison-habits among men, but they were the cultivators of the habits.

In more modern times commercialism with its high-pressure salesmanship and its repetitive advertising has not only helped to perpetuate such evil practices, but it has introduced more such habits among civilized peoples. Under the tutelage of the medicine-man many savage tribes have one or more poison-weeds that they chew or smoke or of which they make a decoction and drink. Many of them have some simple alcoholic beverage which they drink. Tea and coffee, chocolate and cocoa, salt and pepper and spices, opium and hashish, heroin and arsenic, betel and peyote are among the many popular poisons that the shaman and the physician have been responsible for introducing among mankind. Most tribes have but one or two of these poisons; civilized nations import poisons from all over the world and have adopted all of the poison habits that are found anywhere among savage tribes. Huge commercial enterprises are built upon the manufacture and sale of these substances; a great part of the world's agriculture is devoted to raising and marketing tobacco, tea, coffee and materials that go into the manufacture of alcoholic beverages. Habitual poisoning is an integral part of the way of life of civilized man, and his scientists and physicians uphold this ruinous practice.

But our commercial world has gone beyond the poisoning practice and has so tampered with and altered the food supply of man that he is no longer well nourished. Almost all of our foods today are processed and refined until they bear no resemblance to the products of nature that formed the diet of our primitive ancestors. They are robbed of precious minerals and essential vitamins; they have their amino acids destroyed and their other food factors so altered and destroyed that we are not being fed in any true sense of the term. Our foods are artificially colored, seasoned, flavored, preserved and conditioned by the addition of hundreds of chemicals that are useless when taken into the body and that are detrimental to health and life. Our agricultural

methods are such that they guarantee that the foods grown on our soils shall be inferior. Our methods of feeding and housing our food animals and of caring for the flesh of those we kill for foods are such that we are provided with animal food products that are much inferior to the vegetable products we eat. Our milk is standardized, pasteurized, homogenized, recombined, dried, evaporated, condensed, preserved and changed until it is unfit to be taken. Eggs are laid by hens that are forced to lay abundantly and the eggs are of such poor quality that they will not supply the nutritive needs of an evolving chick.

To add to the inadequacies and insufficiencies of our foods, the cook takes a hand in further ruining them as food. Even, as may sometimes happen, if we get good food in the market, it is not very good after the cook has had her way with it. She hashes it, chops it, shreds it, grinds it, purees it, fries it, bakes it, broils it, steams it, boils it, stews it, seasons it, mixes it, presses it, extracts most of the food value it possesses and robs it of all its savoriness, then adds sugar, honey, syrup, salt, spices, peppers, sauces, artificial flavors and colors and in other ways tries to make it acceptable to our palates. She is proud of her art, she is a good cook, but she is fearful of the condition of her miserably fed family. We have come a long way since primitive man took his food directly from the bountiful hand of nature and ate it without preparation and without alteration.

The structures and functions of man are the results of previous preparation for the way of life that he should live. His constitutional integrity rests upon pursuing a way of life that is in strictest harmony with his constitutional character. We may properly say that a certain way of life was constitutionally ordained for man and that, while he can and has strayed in a thousand ways from his constitutional mode of existence, he has suffered in proportion to the distance he has traveled from his preordained way of life. If today civilized man is a puny weakling suffering increasingly with mental and nervous diseases, diseases of the heart and arteries, cancer, Bright's disease, diabetes, cerebral palsy, defective vision and defective hearing, this is because he has abandoned the pristine mode of existence upon which alone rests the structural and functional integrity that spells good health. He has become a biological outlaw and is paying the penalties of the outlaw.

Life is subject to fixed principles and invariable laws; its variety of products and expressions of energy result from the special structural adaptations of which it is constituted. If we would but learn and obey instead of violating nature's laws, we would preserve our health and find no apparent need for further violations in an effort to restore the health we have lost. The laws of being that are so intimately connected with our happiness and welfare should not be merely conjectural or of ambiguous significance. They are written out upon a

scroll as broad as the face of nature, and are exemplified in all that breathes. If Max Muller was right when he declared that "science does its duty, not in telling us the cause of spots on the sun, but in explaining to us the laws of our own life and the consequences of their violation," then has science failed us miserably.

"... Our Paradise traditions, the myth of the Elysian Gardens, the evergreen meadows of the Talmud, as well as the Northern saga of a land without winter sorrows," writes Felix L. Oswald, "have probably been transmitted from a time when all mankind enjoyed such privileges of the blest on this side of the grave, we may never know if the cradle of our primogenitor stood on the banks of the Indus or in southern Armenia, or, as Maupertuis tells us, in the mountain-gardens of Arabia Felix; but all historical and mythological indications point to the South, as well as all tenable theories a priori. What imagination could locate the Garden of Eden in a Russian peat-bog or in a Manitoba beaver-swamp? Neither Adam and Eve nor Darwin's four handed ancestor could have survived a Canadian winter, and even the Saturnian age of the first agricultural nations could hardly be reconciled with the climate of Old or New England. With all the calorific artifices which the experience of the last hundred generations has transmitted to our century, with well-warmed work-houses and hospitals for consumptives, the burghers of Manchester and Boston may manage to counteract the worst effects of a low temperature, but the nations who 'celebrated life as a festival' have inhabited a different latitude."

When Cameons said that "Man's gardens blossom in the north, but Nature's in the south," he ignored the lush vegetation and colorful flowers of the temperate zones. Even in New England nature is lavish with her plant productions, while in northern California there are trees that are older than any that are known in the tropics. But man still journeys south to escape the icy winds of winter and may well say with the returning exile in Mega Dhuta, "Every mile toward the noonday sun brings us nearer to the home of our fathers, the land of sweet-fruits and everlasting summer."

"This earth of ours," says Dr. Oswald, "is at present ruled by a race of valiant Northmen, and some fur-clad philosophers have assured us that not only valor, but civilization and science, as well as virtue—and consequently happiness—are plants which can only thrive in the snow. It would be more correct to say that science and civilization, which flourished in open air during the golden age of the Mediterranean nations, have become hot-house plants in the nineteenth century. The ripening of their fruits still depends upon a certain amount of caloric, only with this difference—that the maturative warmth which once emanated from the central body of the solar system has now to be paid for in the form of sea-coal and kindling-wood. But

happiness, and that physical beatitude of which health is only the principle condition, have never prospered in the atmosphere of the conservatory. Sunlight cannot be entirely superseded by coal-gas. In the intervals of our noisy Northern factory-life there are moments when echoes from the land of our forefathers become audible in the human soul; and I think that at such times many of my European and North American fellowmen become conscious of a feeling which might be described as a Southern home-sickness. For, man is a native of the tropics, and, like the shell that murmurs its dream of the sea, the spirit of the exiled human race has never ceased to yearn for our lost garden-home in the South."

Our yearning to go back to Paradise involves far more than a return to a warm climate. It means getting away from the hot-house existence of northern civilization; it means getting away from our "noisy factory-life;" it means getting away from the stench of civilized life. Truly the words of Lucretius that they "search for a way of life and find it not," appropriately describes the mad search for happiness that characterizes our own age. Instead of a Paradise we have factories and chimneys that give off smoke and foul odors. It means learning again to tap the richest sources of vitality which nature possesses and turning these to valuable account. It means back to natural foods, to sunshine and fresh air, to an active outdoor life, to adequate rest and sleep, to a life of peace and calm. It means abandoning our poison-habits and our life of hurry, frustration, and thrill-seeking.

Most of this can be ours even in the temperate zones, at least in the southern regions of these zones and to a great extent in the more northerly regions, if we will but consent to a reconstruction of our socio-economic system. If we will order our world to conform to the needs of man rather than to the profit-requirements of an owning class, we may enjoy a richer, fuller and better life where we are. Martin Luther King appropriately remarks that: "Any religion that professes to be concerned with the souls of men and is not concerned with the slums that damn them, the economic conditions that strangle them, and the social conditions that cripple them, is a dry-as-dust religion." Hygiene is not a religion, but it is concerned with the welfare of men, women and children. It cannot overlook the social and economic conditions that are so often responsible for extensive suffering. It cannot avoid demanding social and economic change, to the end that mankind may be served more wholesomely. The exploitation that kills must be brought to an end. It is doubtful that the ruining of man's food supply by the processors and refiners can ever be entirely ended without a thorough and radical reconstruction of our economic system.

In China, dogs eat rice; in Greenland, dried fish; in Siam, bananas; on the Pampas, carrion; and one of the Solomon Islands is

inhabited by a race of half-wild curs that subsists entirely on crawfish. I have observed dogs eating vegetables, nuts, dates and other foods that we do not regard as part of the normal diet of a dog. I have raised cats as vegetarians and have seen them eat tomatoes, corn on the cob, spinach, green beans and other vegetable foods. This reveals a remarkable plasticity of the canine and feline species. Horses have been taught to eat fish and our dairymen are now feeding flesh to their cows. It would seem that there is a certain plasticity possessed by almost all members of the animal kingdom, some of them almost as plastic as man.

I think that we may correctly regard this plasticity as a provision for emergencies and not as an indication that all animal life is radically omnivorous. The obvious fact is that animals in nature, although equally as plastic as those in domestic life, rarely resort to this means of survival in the absence of their regular foodstuffs. The cow will starve to death in the absence of plant food and not turn carnivore to save her life; the lion or wolf will die of inanition in the absence of animal foods and will not turn vegetarian in order to save its life. Man, on the other hand, being very plastic, and being thrown upon many states of want of food supplies, has not hesitated to eat whatever is available from insects and earth worms to larger animals and almost the whole of the plant kingdom. But we must not permit this plasticity to blind us to his true character as a frugivore.

So long as men and women attempt to settle the question: *Shall man eat flesh or not?* by reference to the Bible, just so long must it remain forever an unsettled and vexed question. For, it is certain that a good case can be made for either side of the argument, if we carefully select for our authority the different statements contained in this collection of books. But, if we first demonstrate the truthful answer to the question on its own legitimate ground, as a proposition in natural science, we may come up with a definite answer, one that satisfies both the reason and the taste of man. That man is not normally a carnivore is declared by his structures and functions and requires no support from the Paradise legend.

Fruits, nuts and green vegetables constitute the most wholesome and most suitable source of his nutritive supplies. Not even grains, which have so long formed so much of the diet of great segments of the race, belong to his normal diet. But his plant foods must be grown upon fertile soil and they must not be spoiled as foods by commercial fertilization and poison sprays and added coloring. Man must learn again to take his foods from the hands of nature as she turns them out. The pots and pans should, along with the food factories and food refineries, be relegated to the scrap-heap.

Today, our fruits and vegetables and particularly our fruits are so inferior as foods that they constitute poor materials with which to

nourish our bodies. Large, watery and beautiful to the eye, they are either tasteless or have a bad taste and suffer with center rot. Artificially fertilized, over irrigated, sprayed, colored and often cooked they are sold to the consumer, who manages to make them palatable by adding sugar or spice or other substances to them. The time is not far distant, as our agricultural methods continue on in the direction they are now headed, when that person who does not have a plot of ground upon which to grow his own fruits and vegetables will not be able to get these foods in a fit condition to eat.

A well known anthropologist says that a "thin diluted Utopia is all that it is possible to build out of the ghost of former ways of life, and that these former ways of life constitute a ghost as fleshless and inadequate as the way of life was once full-bodied." She cautions against rearing children "on the nostalgic memories of long-dead lilacs in the dooryard." So far as the ghosts of old culture-patterns are concerned, this warning of hers may be more or less right, but if we try to extend this to incorporate the basic essentials of living, we should understand that these have undergone no change. Lilacs in the front yard may belong to a pre-jet-age culture pattern, but the need for an adequate supply of all of the basic essentials of organic existence has not been altered even a little. We may trade in old dobbin for a Cadillac, our mules for a tractor, and the covered wagon for fast trains and jet planes, but we cannot substitute white flour for good food, nor noxious fumes for fresh air. Not even the best air-conditioning is a suitable substitute for the great outdoors. We may exchange the torch and candle or even the kerosene lamp for the electric and neon light, but none of these will fulfill the offices of sunlight.

When she speaks of the "black bread of poverty," she seems to give unconscious expression to the stupid notion that white bread is the hallmark of social superiority, while black bread is for slaves and the poor. If we take this as an index to the kind of life that she thinks we must accept and as representing an index to the kind of life we cannot return to, we have to think of her as extremely ignorant of the needs of man as a living being and of the evils that flow from his refined and processed dietary. If this represents her idea of a good life, of which she says: "men have only to see a better way of life to reach out for it spontaneously," we must charitably conclude that her thinking has been conditioned by the Rockefeller grants that have enabled her to carry on her anthropological researches.

We can investigate the possibilities inherent in human nature, not so much by exploration of the ways of life of savages, as by studying man under more congenial conditions. How can we ever know the heights and depths, the lengths and breadths of human possibilities so long as man is handicapped by any limiting factors, such as inadequate or deficient food, lack of adequate exercise, insufficient rest

and sleep, overwork, lack of fresh air, etc.? A study of the ways of life of savages provides us with but a limited view of man's capacities.

Many evils flow from our modern practice of eating too much. Nutritive redundancy is the parent of many troubles. Dr. Oswald tells us of advice given to him by a planter in Sonora, Mexico: "To requite your kindness I will give you a bit of advice. Do you know what makes your American teamsters so inferior to our old Mexicans on the march? It isn't want of practice, for some of them have been at it all of their lives, and their physique is all that could be desired. The matter is this—they eat too much: I mean they eat too many meals. A Mexican teamster takes a big meal in the evening after going into camp, but he hardly eats any breakfast at all. The habit could be formed during a single trip, and the advantage would be lifelong; for such meals as I saw your countrymen swallow at the posada this morning are sure to make the stoutest man torpid for the next five or six hours, no matter how many drams he puts down to stimulate digestion. A *carretero* hardly drinks a drop of water all day long; a Yankee teamster pumps himself full whenever he gets a chance. It's not the heat of the sun that makes him thirsty, but the inward heat, the stack of beefsteaks under his belly-band."—*Summerland Sketches*.

Water, pure water, should be our drink. Poisoned soft drinks, tea, coffee, alcoholic beverages and such substances that are so popular today are all definitely and unmistakably unhealthful and will not be indulged by the intelligent man or woman.

There are other poison vices besides those represented by our "drinks." All the spices—pepper, nutmeg, cloves, cinnamon, ginger, allspice, and the myriads of other irritating substances that we add to our foods—salt, the fiery sauces and dressings that we pour over our foods, are all unwholesome and not only detract from the genuine joys of eating, but also impair digestion and the general health of the body. The intelligent man will eliminate these substances from his diet.

There are no harmless poison-habits. In all parts of the world one or more poison habits are practiced, but none of them are wholesome and all of them should be avoided. In this country, one of the most prevalent vices among both sexes is the tobacco habit. The old practice of snuffing seems to have entirely disappeared, but the habits of dipping snuff and of chewing tobacco are still prevalent, while the habit of smoking is growing by leaps and bounds in the face of the revelation that smoking definitely contributes to the production of lung cancer, and that it helps to cause heart disease and other troubles. Smoking is not only a harmful and expensive habit, it is a filthy habit and no intelligent person will cultivate it.

"Life is more than food and the body more than raiment" and it is literally true that "man shall not live by bread alone." Hygiene is a total way of life and should be viewed as an integration of all of the

essential factor-elements of living. We must not only eat, we must breathe and drink and exercise and rest and sleep and reproduce. We must love and we are entitled to a rich emotional life. As "no man liveth unto himself," our social life must be constructive and agreeable.

Instead of modern man needing less exercise because a wealth of labor saving machinery has taken the need for strength off his shoulders, he needs more exercise. When the way of life provides inadequate activity, this must be compensated for in some other way. Man is constituted for activity and when he sinks into a sedentary life he deteriorates in more ways than may be guessed by observing his muscular atrophy. The very ugliness of the undeveloped human body should, alone, be enough to cause him to adopt and carry out a plan of physical exercise that uses every part of his body daily. Only the stupid will attempt to substitute relaxation on a couch fitted up with vibrators for a plan of active and vigorous use of his or her muscles.

Rest and sleep are as essential to good function as exercise. Modern man tends to neglect his needs for periods of repose and to attempt to substitute stimulation and excitement for rest and sleep. Both his social activities and his work are geared to an out-moded economic order that is opposed to his highest welfare at every step. He tends to stay up late at night, night after night, and to carry his activities far into the night. He smothers his sense of tiredness and sleepiness with stimulants until he evolves insomnia and then takes barbiturates to enable him to sleep. He drives himself with stimulants until he is unhappy, unpoised, and borders on a mental break-up and then takes tranquilizers.

The intelligent man and woman will cultivate the practice of retiring early and sleeping through the night. A profound enervation may grow out of the failure to secure enough rest and sleep to thoroughly recuperate from the daily expenditures. Not only should we sleep at night, but there is great good to be derived from periods of rest and sleep during the day. The old practice of nooning, which our ancestors of but two generations ago practiced, could profitably be revived. Right living is a constitutionally conservative influence.

"Hygiene is a dream," say the mouthpieces of organized medicine. Translated into language that is intelligible to the layman, this means: "We medical men hold that misery is inevitable and eternal; That the sick and the suffering must always be with us, that we must always have profitable employment. A reign of universal health might be very beautiful, but all attempts to change the evils of the world is a vain dream. The medical system, with all the evils this implies, is eternal." Thus do they continue their twenty-four hundred years old struggle against the normal ways of life and against the health and welfare of mankind. Hygienists are of the settled conviction that there will be a better world in the near future.

LIGHT OF LIFE

Chapter 34

Moliere correctly characterizes the physicians of his day as pompous, grandiloquent and generally ignorant. What must have been the state of physicians a few hundred years earlier? The history of medicine, from its origin to the present, has been one of assumption, speculation and empiricism so far as the administration of its remedies is concerned. It did not begin in knowledge but in ignorance; it was not based upon any demonstrated principles but upon superstitions that should, long ago, have been outgrown. Even as knowledge has increased, and I here refer particularly to knowledge of the body in both health and in sickness, there has not been an abandonment of the methods of treatment that were based upon these superstitions, but a strong adherence to them.

Medical men unblushingly trace the origin of their practices to the witch-doctor of savage tribes. They do not trace their practices to the results of any early research nor to any accidental discoveries of important truths, but to the mummery of medicine-men. Beginning, not in knowledge, but in the grossest superstition and the densest ignorance, these medical origins were but efforts to cast out evil spirits or to secure the good will of angry and vindictive gods. I have no objection to them deriving all the satisfaction they may out of such origins, but I do object to the thought that the directions such origins gave to the practices can possibly progress into anything good or genuinely useful.

I would call attention to the following significant facts, which, unless I am wrong in thinking that knowledge is important, should invalidate the medical system. In ancient times there were no schools or colleges in which to train physicians. Hippocrates, the alleged Father of Physic, never attended a medical school. There were no text books to study; there was but the scantiest knowledge of anatomy; there was no knowledge of physiology; there was no knowledge of biology; there was no knowledge of pathology; there was no knowledge of diagnosis; there was no knowledge of chemistry; there was no knowledge of pharmacology. It would seem superfluous to add that there were no microscopes, consequently no knowledge of cells (cytology) and tissues (histology), no knowledge of reproduction and heredity and no knowledge of either symptomatology or of etiology. All was ignorance and darkness; all was superstition and guesswork.

It would be passing strange if, under these conditions, remedies should have been found that were of genuine value; it would be stranger still, if the direction this gross ignorance and superstition

gave to medicine should be the right one. That men in such utter ignorance of the very sciences that we now regard as essential to any sort of medical practice would or could have started off in the right direction seems improbable. Yet, in spite of all the progress that has been made in the sciences named in the preceding paragraph, the medical profession is still searching for cures as did the ignorant men of the past, they still talk of disease as an "attack" upon the body, as did the most ignorant contemporary of Hippocrates; they still look for cures in poisons, as did Galen and the Arabian physicians; they are still trying to cure disease instead of studying causes and effects. It is easy to see that medicine got started wrong and that it has grown no better with the passage of time.

When medical colleges were finally established, they had no textbooks, no organized curricula and precious little genuine knowledge to impart to the student. All through the ancient and medieval periods, students spent time pouring over speculations that had no value, while practitioners carried out practices that were criminal when they were not mere jokes. Right down to recent modern times, the medical schools taught their students hoary fallacies that passed as knowledge. The most outstanding physicians of the past were ignoramuses.

Writing in 1851 of medical education in the United States, but stating that his remarks would "apply to some extent to other civilized countries," Thomas Low Nichols, M.D., who attended two medical colleges and investigated many more, tells us that "there used to be a law in this state (New York) requiring three years (to prepare a man to practice medicine), but now no term is required, no study, and any smart man, by a little management, can get a regular diploma in six months; while at some of the irregular colleges, they are sold, like groceries, to every customer who can pay for them."

Describing the education of the medical student, as it was then carried on in the better medical colleges of the country, Dr. Nichols further states: ". . . when a man has a son who is not studious enough to become a teacher, nor pious enough for a minister, not smart and tonguey enough for a lawyer, there is nothing left but to make him a doctor.

"And this is the usual course of study. He enters, with a superficial academic education, the office of some physician as student. He begins with some ardor, the study of Anatomy, and, of course, runs his head among the dry bones of osteology. He gets as far as the demonstration of the *os sphenoides*, and then it fortunately occurs to him that he has got to attend two courses of lectures, and pay professors for teaching him, which will be more pleasant. Good-bye, books. He smokes long nines, chews enormous quantities of pigtail and canendish, loafes away his time in the bar-room of the village tavern or

sitting on the counter of the store, rejoices in the title of Doctor, awarded him in advance, and indulges in pleasant visions of the lecture term, and the prospective diploma.

"So, study is postponed to the lectures, and the student, bothered with hard words, and disgusted with the task of acquiring knowledge, of which he cannot see the use, makes up his mind to be put into the hopper with the rest, run through the mill, and be ground out a doctor. We may admit the regular amount of exceptions to all general rules, which are said to amount to one-eighth, but the rule is as we have stated. At least seven-eighths of our medical students pursue the course above described.

"Then comes the first course of lectures. The student comes to New York, perhaps, and enters the medical school of the University. I shall describe the course here from personal observation.

"At nine o'clock comes a lecture on chemistry, clear, simple, and sufficiently rudimentary for a new beginner—just what he could read in any good standard school book on the subject. At ten, a lecture on Anatomy, in which every process, spicula, foramen of a bone is described, three times over, and whole weeks are wasted on details that cannot be, by the remotest possibility, of any practical importance, while the real matters of interest are commonly crowded into a brief space, at the end of the term, or wholly neglected.

"Next comes the lecture on Theory and Practice of Medicine, in which the theories are always contradictory, and often absurd, the practice heterogeneous under pretense of being scientific, but governed by no settled principles, with authorities so contradictory, and cases so inconclusive, as to plunge the inquiring mind into a maze of perplexity.

"Next comes the lecture on surgery, the most practical and satisfactory of any, but often made the vehicle for the display of petty vanity, and the exhibition of a ferocious penchant for unnecessary mutilation of God's abused image.

"At three o'clock comes an hour of prosy description of the various articles in the *materia medica*, with the *modus operandi* they have on paper, and in the lecture room.

"Last comes an hour of flippant talk on midwifery, on which a professor lectures an hour a day for four months, and then manages to leave out nearly all that is really valuable on the subject.

"Such is the course of instruction, six hours a day, for five days a week, for four months. It is hard, tedious, dry, uncomfortable and the student who has postponed study to the lecture terms, is very likely to put it off from the first term to the second.

"We hear much of attractive industry, and there is much attractive study, but the student of medicine finds little to attract him. The details of anatomy, given by themselves, are dry and repulsive.

They are not enlivened with physiology, nor made interesting by pathology. The student sees no reason why he should be able to describe the perforations of a bone in the base of the cranium, or give the origin and attachment of a hundred little muscles, on which no medicine can act, and which no surgical operation can reach.

"Medical knowledge is dealt out piece-meal, and with no regard to its connections and uses. The true science of medicine is like a beautiful machine, in which the action of every part can be seen. Medicine, as taught in the schools, is the same machine with its wheels and springs all separated and thrown into a mass of incomprehensible materials. It is utterly disorganized, shapeless, and without life or soul.

"The circumstances correspond with this condition. You will see hundreds of boys and young men listening to a lecture on the vital relations of the atmosphere, in a room so badly ventilated, that the air is made too impure to breathe in ten minutes. While hearing the professor of physiology, they are exhausting their lives by chewing huge quids of tobacco, and covering the floor with vast puddles from their poisoned salivary glands. They hear a lecture on typhus, in an atmosphere well fitted to produce it. Utterly regardless, and, for the most part, utterly ignorant of the laws of health, they are preparing to heal the sick. At the close of the season, you see a collection of pale and sallow faces—the result they would have you believe, of severe study; but we may as well take into account a total neglect of bathing, improper and excessive eating, the constant breathing of bad air, want of exercise, late hours at theatres, gambling houses, and worse places, and the use of tobacco, tea, coffee, and often of ardent spirits.

"And these, O people, are your Apostles of Health! These are your physicians! The term closes, the examination approaches, and for those who are to graduate, there comes a few weeks of earnest study. Hand books are read over, technicalities committed to memory, and every nerve strained to be able to pass the ordeal. It is a false alarm, for the professors are as anxious to pass the student as he is to pass. Every college wants the greatest number of graduates and students. It is politic, as well as benevolent, not to examine too severely. In a class of a hundred students such as I have described, there will not be one rejected. Are they all qualified to practice the healing art? Ask, rather, if any one of them is so qualified. Be assured, not one, unless he has learned more than his professors have been able to teach him.

"This is medical education as it is . . ."

That is a dark picture of medical education (?) at the middle of the last century, but it continued to be about as Dr. Nichols describes it until within the present century. It must be admitted that it is greatly improved today, although the student still spends his time learning a lot of antique fallacies.

The state of medical "education" in this country before the middle of the last century may be understood by considering the remark of William A. Hammond, M.D., who was Surgeon-General of the Northern Armies during the War for Southern Independence, that when he graduated from medical college, he was not fit to "attend a baby with the colic." There was but little improvement in medical education in this country until 1912.

The mists of medical "education" obscured the truth in all things. While the fogs of learning are permitted to obscure the truth, millions will continue to be lost on the sandbanks of ignorance and error. Medical historians say that before the 19th century knowledge of medicine was largely empirical. Physicians are said to have known that certain preparations were helpful in treating disease, but they did not know why. A few remedies came to be specifics, as, for instance, quinine in malaria and digitalis in heart disease. All of this simply means that they were groping blindly about in darkness and that they thought they had a few genuinely helpful remedies. Is there a physician today who would dare to assert that quinine is a specific for malaria? Is there one who will assert more than that digitalis is a heart stimulant, a whip? There was no science of medicine; will anyone dare assert that there is such a science today?

Historians are fond of telling us of the "notable progress" medicine is alleged to have made in some past or present era, when, as a matter of fact, there has been no progress at all, only change, sometimes the change being for the worse. Medicine has been marked by the coming and passing of vogues, such as we should expect of any system that is not founded in the primal laws of being. That there has been much progress in the biological sciences—*anatomy, physiology, embryology, histology, etc.*—is not to be denied, but these are not medical sciences and progress in these sciences should not be mistaken for medical progress. The practice of poisoning the sick was not, at its origin, founded upon any biological science nor upon a single known biological principle, and no biological foundation has ever been found for the practice.

In August 1960, a Chicago physiologist attended the mid-year meeting of physiologists held in Stanford University, and returned to Chicago with the news that Stanford Medical School and various other schools no longer teach physiology. What there is of it is swallowed up by such new studies as space medicine and isotope techniques, etc. Nutrition is also being neglected, as they think they have found all the vitamins worth looking for. This may be regarded as a step backward in medical education (many medical schools in the last century provided no study in physiology), but it should be recalled that medical practice has no physiological basis and the physician is forced to forget all that he has learned about physiology as soon as he goes into

practice. As he makes no use of nutritional knowledge, and has no need for physiology, these subjects may as well be left out of the curriculum.

Medical historians, contrasting the theistic basis of ancient and medieval medical practices with present-day practices, say that in the past, "man did not feel his way carefully from experiment to experiment, from observation to observation, until the general principle was found which inductively comprised a number of phenomena under one uniform principle or law, but the principle which was at the bottom of phenomena was fixed upon a speculative basis, and in accordance with this principle the phenomena were interpreted." The humoral pathology is often given as an example of this speculative process. As the speculatively constructed principles were arrived at by analogy, which is regarded as a dangerous procedure in natural science (and medicine is not a natural science), it is said that "naturally the most fantastic and adventurous conceptions" became accepted in both the realm of "natural philosophy" and in medicine.

What medical writers want us to understand is that, today at least, medicine is an experimental science and that it rests upon more solid bases than did the medicine of the past. What is over-looked is that the basic conceptions of the medical man of today do not differ from those of the medical man of the past. He still regards disease as an entity; he thinks of disease as an attack; he looks upon disease as an enemy; he is still seeking to conquer, subdue, control, kill or cure disease. He has accepted and refuses to surrender all of the ancient conceptions and, as a consequence, all of his experimenting is wrongly based and leads him further and further away from truth. Today he subjects his cures, as these are brought into being by means of research, to much experimenting and testing and the result is that they almost never last as long as did the cures of his predecessors. Perhaps he discovers more cures but he can't keep them curing.

Experimenting does not necessarily lead to truth. It more often, especially in medicine, leads to error. Experimental practice always presupposes error and disaster. No man can learn, independently of general principles, except through frequent failure. It is the sad and disastrous experiences of life that teach him wisdom quite as much as successes. Medical practice, from Hippocrates to the present, has been one long series of disastrous practices. Theory after theory, system after system, practice after practice, having followed each other in rapid succession, and each has but lived to prove itself as false as its predecessor. Today, theories and practices follow each other in greater profusion than at any time in the past, while new practices are born and die so rapidly that it is all but impossible to keep up with them. What passes as the science of medicine today is but systematized lunacy.

The most outstanding activity of the medical profession during the whole of its relatively short history, has been its unceasing search for *cures*, with never any stress upon the importance of preserving health. Instead of studying causes and effects, it has sought for cures and immunizers; the first to remedy disease without removing its cause; the second to prevent disease without avoiding its cause. There has been no conception of law and order; merely the assumptions that nature is the enemy of man, that disease is inevitable and that cures exist if only we may find them. The result has been that, although much progress has been made in the biological sciences, no method of care, whether of the well or of the sick, has been based upon the principles of biological knowledge. The medical student studies physiology and wonders for the rest of his life: Why? His practice is as unphysiological as it is possible for anything to be. He is still employing measures that had their origin in the days of complete ignorance of all biological science.

Confirming this, Henry E. Sigerist, M.D., Director of the Institute of the History of Medicine at Johns Hopkins University, 1932-1948, who is regarded as an authority in his field, says in the preface to the first edition of his book, *The Great Doctors*; "from the shamans of primitive tribes down to the scientific physicians of our own day, (all) are inspired by the same will. They seek the same goal and are guided by the same idea." They all seek to cure disease; the shaman, by driving out evil spirits; the physician, by killing evil germs. To find these cures they have rummaged through "all the dregs and scum of earth and sea," have explored the bowels of the earth for cankered minerals, and have dug into garbage heaps of the earth in search of soil bacteria that produce toxins of sufficient virulence to cure disease. They started as exorcists, they are still trying to exorcise something. The fountain has been unable to rise higher than its source.

In striking contrast with the obvious shortcomings of *medical* education, even that of the present, let us briefly view the educational needs of the hygienist. The science of Natural Hygiene is a most comprehensive science, since it includes a knowledge of all the laws of nature that relate to human existence. To be a hygienist of any worth, one must have a wide and detailed education in many subjects.

The grand and special science of Natural Hygiene is biology. In saying this, we do not mean biology in any narrow or restricted sense, but in all of its various branches and ramifications. Of the biological sciences that are paramount in hygiene, that of physiology is the pivotal science around which all others revolve. It is the trunk of the tree, of which the other sciences are the roots and branches. As the medical man regards pathology as the pivotal science of medicine, so the hygienist must understand physiology as pivotal to hygiene.

Hygiene is not primarily a science of sickness, but one of health. But in the present state of mankind, the hygienist must also understand the seamy side of biology (pathology). No one can understand disease and recovery therefrom unless he first understands health and its laws. The most important office of the *Hygienist* is the preservation of health, both that of the individual and that of the community. To fulfill this office he must know what health is and what it requires. He must understand man, body, mind and all. The laws of life, the conditions of health and all the materials and conditions that sustain and promote health cannot be too thoroughly understood.

The hygienist must understand man's relations to his fellow man and to nature. It is not enough to know the structure of the body. Three-fourths of the anatomy the student learns one day, only to forget the next, is useless to the man at the bedside or in the kitchen. This is not to deprecate a knowledge of anatomy, rather it is to emphasize the greater importance of knowledge of other departments of human activity and of human life. All knowledge is important, but the hygienist must know man; not the structure of a corpse, as the anatomist has studied it, but the living, acting, thinking, emoting being that he must deal with. He must have an understanding of mental and moral influences, of impressibilities and of the influence of society, of truth and of falsehood, of passional harmonies and disharmonies, of food and nutrition, of the influences of sunshine, of rest and activity, of warmth and cold, and of cleanliness and uncleanness; in brief, he must know man in all of his conditions and relations, physically, intellectually, emotionally, morally and socially. He must understand man both as an animal and as a higher being.

The Hygienist must comprehend principles and be able to apply them. His knowledge must be broad enough and comprehensive enough to enable him to make a practical application of the principles of hygiene under all conditions of life. If he thinks that the normal home of man is in the tropics, and he lives in upper New York state, he must be able to apply hygienic principles where he is and under the circumstances that exist. He must understand the limitations under which he labors and be able to surmount these by proper adjustments of the hygienic program to prevailing circumstances. In the thoroughness and completeness of his education everything is important.

Compared with the knowledge required by the hygienist, the common study of medicine is idle drivel and the common practice of medicine the merest cobbling and tinkering of a glorious machine. It is the kind of cobbling and tinkering we naturally expect from a profession that confesses that it does not understand the normal conditions of life and knows not the cause of healthy function. It is the kind of blind experimentation one can logically expect from a profession that freely confesses its lack of knowledge of etiology. When

the springs and passions of man, of life and action, are neglected for the dry bones of anatomy and the absurdities of pharmacology, little can logically be expected of the practitioners of a system that relies upon anti-vital means of care.

It is important that the hygienist be learned in all that relates to human life and that he comprehend something of the vital organism he would care for and the life of which he would prolong. He cannot be a blind man working in the dark. He must be sure of his principles, certain of the correctness of his means of care and skilled in their application. Every science or branch of science that contributes to an understanding of man in all of his relations is a proper field for the hygienist. He may know geometry to aid him in the comprehension of form; chemistry to help him understand the composition of matter; physics to help him understand the mechanical actions of the body and much other phenomena of life; the science of bacteriology, that he may begin with the simplest forms of life; botany that he may understand the plant world and its great importance to animals and man; zoology for the aid this gives him in understanding man as an animal. The simplest plant or the most perfect animal may provide a lesson for man. The whole of biological science belongs to him and may be of the greatest use to him. Where there is life, there is knowledge to be gained. Psychology, moral philosophy, sociology, archeology, anthropology, history—all assist him to understand man in his many relations.

What effects do economics have upon man? Here is a wide field for study by the hygienist. Poverty, with its deprivations and anxieties; great wealth, with its redundancies and dissipations; inequalities of opportunity, with its dissatisfactions; repressions and tyrannies, with their rebellions—all of these need to be fully understood by the hygienist. He requires a knowledge of agriculture and the best means of assuring an adequate and wholesome food supply. He must understand sexology and genetics, family life and the needs of children. In brief, the hygienist must learn to correlate and integrate all of the elements of life into one organic and consistent whole. The fragmentation of science has no place in his world.

Connected with the laws of life and the necessary conditions of health is a knowledge of the causes of disease. Of these latter the books and teachers of the orthodox schools provide only the most vague, imperfect and unsatisfactory generalizations and wild guesses. If they knew more of the causes of disease, they would certainly have found better ways of caring for the sick. "The cause suggests the remedy," said Dr. Nichols; but in all of the current works of the various schools of so-called healing, there is no thorough analysis of causes, and some of the most potent and universal ones are either not mentioned at all or given but a passing notice as though they are unimportant. Sometimes it seems that they are wholly unsuspected.

The hygienist may know surgery and he may be called upon to perform surgery in certain circumstances, but surgery is not an integral part of Natural Hygiene. While he recognizes that most of the surgery now performed is not necessary and that some of it is criminal, he also knows that there are needs for surgery. He knows that a skilled surgeon, one who is both conscientious and understanding, is a valuable man to have around on numerous occasions.

THE GREAT DECEPTION

Chapter 35

The ancients did not understand that prayer has any healing virtues. It was god that healed; prayer was merely one of several ways of approaching god and securing his help. They did not understand that the incantations of the magician healed; these were means of exorcising evil spirits or of obtaining the help of good spirits. Neither prayer nor incantations were looked upon as medicines. It remained for the medical profession, which arose at about the time of Hippocrates, to invest certain elements of the incantatory rites with healing virtues and to create a system of medicine. It discarded the gods and the evil spirits and began a search for and use of vegetable, animal, and finally mineral substances, with which to cure disease.

Thus it was that, beginning at about the time of Hippocrates, perhaps a little earlier, mankind started the mad experiment that has continued to the present and that has been responsible for more suffering, disease and premature death than any other single factor in the whole of recorded time—the drug experiment. During this time (roughly about twenty-four hundred years) the medical profession has experimented with many thousands of different poisons, drawing them from all the kingdoms of nature. The sands of time are strewn with the wreckage of their many vaunted cures that have enjoyed a brief heyday of popularity before passing to that ever-expanding Limbo that is reserved for the cures that pass in the night. Perhaps no more fatal madness ever gripped the human mind than this: *That poisons are the proper substances with which to preserve and restore health.*

In the chapter on the Dark Detour, we witnessed the way in which physicians slowly led the people away from hygienic management of the sick into a stupid reliance upon the foes of life as a means of cure. Everything that imagination could dream of or ingenuity supply has been employed with which to cure invalids of their diseases, yet invalids are to be found among us as thick as leaves in the autumn and their number continues to increase, facts which should reveal the futility of the treating program.

It would be incorrect to think that physicians were alone responsible for the increasing reliance upon drugs and for the increasing potency of the drugs used. Sufferers demand "relief" from their suffering. Few of them are willing to think of the ultimate results of drug-taking (these results were wholly unknown at the beginning of the drugging practice), nor are they willing to await the long-term, but lasting effects of more rational care. Immediate relief, even if only temporary, becomes more important than genuine recovery. They want

and demand immediate relief, which they must have if they have to die to get it. When a man or woman is suffering severely, and especially if the suffering is prolonged, his or her suffering becomes unbearable. Not only the sufferer, but the other members of the family, also, demand that the physician do something to provide relief.

Physicians have tried to meet this demand for relief in any way they could. Struggling to meet the ceaseless cry for relief, physicians sought for and resorted to stronger and stronger drugs with which to palliate the discomforts and pains of their patients. Although physicians of today have a number of drugs which are supposed to destroy cause (germs, viruses, parasites having replaced the demons of former ages as cause), it is still true that their practice is largely confined to palliating symptoms—an aspirin for headache; an antacid for gastric distress; a laxative for constipation; an antipyretic for fever; a tranquilizer for restlessness; a barbiturate for sleeplessness, etc.

The older methods of palliation, especially the use of hot and cold water, manipulations, etc., were not prompt enough, in many cases, in providing "relief," nor was the "relief" always sufficiently lasting. Magnetic and hypnotic procedures, which were formerly employed, were also abandoned as the drug system evolved, and were practically forgotten. The search for palliatives and the neglect of the older plan of ordering the life of the patient, led deeper and deeper into the quagmire of drugging until medicine has become little more than a system of spectacular palliation.

A large part of the intellect and even the heart of the world is spent in researching for poisons with which to treat the sick, but the question will not down: *Why is it necessary for sick human beings to be poisoned?* Can the administration of poisons be made more curative in the future than it has been in the past? Has nature so stultified herself in her production of her creatures, that they must be poisoned in sickness if they are to live? Is man so adjusted that he must be poisoned when he is ill? It is my conviction that a physician's faith in drugs is a reliable measure of his intellect; that his intellect is always in inverse proportion to his faith in physic.

In the evolution of weapons with which to slay the hydra of pathology, we witness a progressive forsaking of the essential and primordial requisites of life and an increasing reliance upon means of human torture. The chemical impositions, mechanical percussions, surgical vandalisms and ionizing radiations by means of which the modern physician and surgeon attempts to remedy the diseases of mankind, invariably and inevitably recoil upon the organism in ways that are hurtful and that prevent genuine recovery. A recent example comes readily to hand. *The New York Times* (Sept. 30, 1959) carried the story of the request by the *New England Journal of Medicine* (in an editorial Sept. 24) for the complete withdrawal of the drug,

dihydrostreptomycin, one of the antibiotics, citing a report in the *Journal of the American Medical Association*, that stated that thirty-two persons had lost their hearing after treatment with this drug.

I. Bobrowitz, M.D., director of tuberculosis for the City Hospital (New York) stated that "the drug can have a toxic effect." No drug can "have a toxic effect" unless it is toxic. The fact is, and every medical man knows this, that every drug they have ever used that they now use, from common table salt to Prussic acid, is toxic. There is not one of them that does not have toxic effects. Bobrowitz added that it is possible to have some difficulty with hearing after prolonged use of the drug. Prolonged use is exactly what is seen in the mistreatment of tubercular patients with this poison. How stupid, then, can our public officials become? The *Times* says: "an official of the local Food and Drug Administration said he had not been aware of the drug's allegedly harmful affects and could not comment." Why are the men of the Food and Drug Administration not aware of the evils of all poisoning of the sick?

What can we logically think of the universal employment by physicians of the most virulent poisons in the treatment of the sick? The laws of the human system, the needs of the human system under abnormal conditions, to enable it to excrete toxins, to repair damages and restore normal function, are little considered, and a course of drugging (poisoning), the most directly opposed to the welfare of the system, is adopted. Is it possible to name a single poison, animal, vegetable or mineral, which has not at some time been employed as a medicine by a large part of the profession? Is it not safe to say that at no time has a greater variety and quantity of virulent poisons been employed as medicines by the regular profession than at present? In fact, poisons are the Alpha and Omega of their *Materia Medica*—the employment of hygienic materials and influences being the exception in their practices.

Why? Upon what principles, physiological or pathological, are such vast quantities of virulent poisons sent into the blood and tissues of invalids? poisons, which, if taken by the well man, would be regarded as suicidal? No intelligent answer can be given to these questions. By some mystic process poisons have found their way into the favor of some popular professor of medicine or of some noted specialist and they are adopted by the entire profession.

The history of medicine is an unsatisfactory one. Study it from its beginning to the present and but one conclusion is possible: namely, that it is not only uncertain and unsatisfactory in its results (except it is certain in its evil), but that there have been gross errors connected with it which have been responsible for many ills to which it may be truly said that human flesh is not heir. This is to say that it has produced ills that would never have existed had there been no medicine.

What is commonly called the progress of medicine consists, for the most part, in discarding drugs that were once sworn by. If once they gave them freely, today they are no longer administered. This does not mean that the new drugs that have replaced the old ones have any more value (they may be even more destructive), but it does show a dissatisfaction with the old. Indeed, nothing can more certainly reveal the dissatisfaction with both the old and the new drugs, than does the constant search for newer drugs. The readiness with which physicians discard old drugs and the avidity with which they adopt new ones would teach our people a vital lesson were they not so brainwashed in medical fallacy that they are practically incapable of thinking straight on the subject.

The value of penicillin as a medicine is proved in the same way as was the propriety of throwing babies into the Ganges to appease the gods; its power to restore invalids to health is nearly as certain as the transmigration of souls. Education has taught these, as it has millions of other absurdities, and it is as reliable in the one case as in the other. Strange that a substance, which is claimed to possess such remarkable powers for good, should also be such a demon! Strange that, though it possesses healing properties unequaled by all the drugs ever used, it should yet lay so many low with allergies and even kill its hundreds! Strange, passing strange, is it not, that, while its administration may be responsible for so much damage and finally death, it is, nevertheless, a life saver par excellence!

Great progress has been made by the pharmacologists in determining how much of a given poison may be administered without producing death, how much is permissible without producing great harm, but this is a negative kind of progress. It restores no health; it removes no causes. It is simply a plan of poisoning the sick on the implied assumption that if the poison does not kill it cures. Whether the physicians rely upon their experiences (empiricism) or upon clinical tests (experiments) as a guide in their drugging practices, they are engaged in a ceaseless round of substituting new poisons for old ones. They recite their clinical cases, well illuminated by the twilight of conjecture, they interpret their "experiences" in keeping with the prevailing theories, and seek thus to support the practices that are in vogue, but they change their practices and discard their theories for new ones and abandon the very drugs that they have sought so earnestly to support.

They have established an empiric plan of cure and have added to their practices an air of mystery; they have named diseases in two or three ancient languages, the learning of which has been substituted for science. Prescriptions are written in a language that no one but the physician and apothecaries can read. That the medical colleges give their support to these things does not speak well for the professors in

these institutions. Instead of teaching genuine science, they are assisting in preserving the prevailing confusion.

So long as it has existed, the medical profession has failed to learn or at least to apply a few plain and apparent principles pertaining to the laws of the relations of matter and living structures, but has chosen, rather, to pretend to be in possession of mysterious things as a basis for its science and art. The fact is obvious that throughout all the ages, the more medicine man has swallowed, the worse off has he been. Still the profession kept on experimenting, now with poisonous pills and blisters, then with bourbon or bugs, later with quinine, mercury and antimony, still later with penicillin, streptomycin and cortisone, but what's the use? Why have they refused to study cause and effect?

Hygienists contend that life and its variable phenomena, rather than drugs and their uses, should provide the proper field of inquiry. From such a study is to be gained a knowledge of how the organism acts under different circumstances. We would learn how it ordinarily behaves and how it acts under constraint and compulsion and what are the proper conditions for its ascendancy over harmful substances and conditions.

The living organism grows, evolves its parts, carries on its multiplicity of functions and reproduces itself. To accomplish all this, it selects from its environment such materials as it has capacity to appropriate and transform into its own structural elements and refuses and rejects the rest. Both these acts of selection and rejection are necessary conditions of the maintenance of its vital integrity and of its continued existence. In the plant or animal, so long as life continues, assimilation and growth and refusal and rejection are in constant operation, the energy of the two sets of actions bearing a constant relation to each other, for the living organism equally seeks its own welfare in either act.

As the constitution of the vital organism is uniform and invariable, we may classify all matter in general in two categories, as these relate to the living organism, as follows:

1. Those substances that may be transformed into living structure—Food.
2. Those substances that cannot be transformed into living tissues, but which are chemically incompatible with the structures and physiologically incompatible with the functions of life—Poisons.

Organic existence is perpetual creation or perpetual evolution, if you prefer. The processes of renewal and of casting off waste are constant. There is no resting, only continuous activity. Food and drink serve the vital organism because they may be converted into blood. By the processes of digestion, absorption and assimilation, they become flesh and bone and nerve. They become part of the body—are trans-

formed into living structure. Any substance that can be transformed into cell-substance is food; that which cannot be transformed into cell substance is foreign to the body, has no place in the vital economy, and must be rejected and expelled. In a word, it is a poison. All substances, in their relations to the living body are foods or poisons.

Scientifically, any non-usable substance is a poison. It may range, in toxicity, all the way from almost nil at the lower end of the scale of virulence to a virulence that, even in small doses, produces instantaneous death. Whether virulently toxic or but slightly so, it must be cast out. The body must resist and expel useless substances at much expense to itself. Herein lies the evil of the drug system. The physiologist knows no power in the living organism to produce structure, carry on function or generate functioning power out of drugs, nor does he know any power of the body to eliminate the causes of disease by the use of drugs. They are means only by which the system may be exhausted in an unnecessary and wasteful manner. The body cannot appropriate drugs and cannot incorporate them into living structure.

If drugs could be digested and assimilated, they would be foods and would not be looked upon as remedies. If they were usable, they would not be poisons, hence they would not occasion those many actions of resistance and expulsion that are mistaken for the actions of drugs. If castor oil, for example, were a food, it would not be a purgative; if opium were a food, it would not be a narcotic. Whatever is foreign to the normal, healthy organism and cannot be digested and assimilated to its essential structure, whatever undergoes no vital transformations and does not lose the character and properties which it possessed before ingestion, is inimical and will result in disease.

When the qualities of matter and the functions of life are better understood, and when it is seen how all the endowments of living structure flow from qualities inherent in the matter of which living structure is composed, set in action by certain suitable relationships, then it can more easily be seen that neither possession nor restoration of health can flow from any extraneous chemical agency, but always and inflexibly from the maintenance and restoration of the necessary conditions which are connected with the normal elements of living. Physicians have for so long disregarded the true adaptations of matter to the organic system that they try to fulfill organic needs with materials that are wholly inappropriate to this end. They are constantly embarrassing and debasing the organism by the administration of materials and influences that are counter to its perfect development and highest good.

Those substances that are antagonistic to and destructive of the integrity of the vital molecules in various degrees of intensity, constitute a very large class, consisting of many subdivisions. Indeed,

subtracting those substances that can be appropriated and used in the production of new structure and in carrying on the organic functions, almost all of the elements and compounds in nature belong to this class. Some forms of matter are so destructive of the structures of the body that they destroy it—corrosive poisons. Others, although not destroying the vital structure, occasion so much vital resistance, that the organism is rapidly exhausted. Poison is poison and food is food and they are as distinct from each other as life is from death. Between the one and the other there is a limit, a frontier, which is in principle absolute and unpassable. They cannot be used interchangeably without evil results.

Every attempt to impose substances and conditions upon the living body that are antagonistic to its functional and structural integrity is resisted and the organism seeks to cast off and expel the substance. All of this is the result of the invariableness that characterizes the constitution of things. All the importance that is attached to the employment of drugs in the care of the sick comes from a non-recognition of the essential nature of the actions of the living organism occasioned by the presence within its precincts of substances that are antagonistic to life. The resistance the body offers to the presence of the drug and its actions in expelling it are mistaken for the beneficial actions of the drugs.

The great diversity of actions that are attributed to drugs arises out of the great liberality of the organism's endowments; the utmost diversity of activity demands the utmost differentiation of structure to provide the agents of diversity of action. The animal body is constituted of parts and these parts are composed of lesser structures, each of which has a quasi-interdependent existence and exercises its own peculiar vital activities; so that, when it comes in contact with substances that are antagonistic to its structural integrity or are opposed to its functional endeavors, it is capable of acting in a manner peculiar to itself; hence, the introduction of poisons into the general organism, that are carried by the circulation throughout the body, will occasion local activities in keeping with the peculiar powers of the local structures. We may understand, for example, that an emetic occasions a suspension of the process of digestion, but we must, at the same time, understand that the nausea and vomiting are parts of the process by which the emetic is rejected and expelled. What is mistaken for drug action is not additional to the regular actions of the living organism, they are merely changed or modified vital actions.

Drugs are inert substances with no more power to act after they have been taken into the living organism than they possessed while resting passively in the bottle on the druggist's shelf. The living organism possesses both the instruments of action and the energy requisite to action. What is called pharmacodynamics is, in sober

reality, biodynamics. To deny this is to deny a basic fact of existence—the power to reject and expel useless substances. Reasoning from the false position that lifeless substances act, drugs appear to have many actions. The many actions are those of the complex body and not those of the relatively simple drug substance. Life is subject to fixed principles and invariable laws; its variety of products and expressions of energy result from the special structural adaptations of which it is constituted, and do not depend upon changes in the laws and principles that govern its operations. Organic complexity is the basis of the great complexity of actions seen.

Our mental vision often suffers from errors of refraction and our preconceived notions frequently prove to be distorting media and sometimes cause the most sublime truths to appear absurd. What we see, when we look into a fountain of new truth, is obscured by the fact that we wear the spectacles of a questionable theory that we have previously accepted. If we could free our vision of the distorting effects of the smoked glasses of accepted hypothesis and respected theory, we would be better able to obtain a crystal-clear view of the scene before us. It may be difficult, at first, to grasp a fact so simple, yet so opposite to all that we have been taught, that it is the living organism and not the lifeless drug that acts, yet it should be plain, even to the least informed, that drugs have no more power of action than a clod of dirt or a dry stick. This lesson might have been learned ages ago had sound intelligence, rather than a pretended science been the reliance.

It cannot be too frequently nor too strongly stressed that everything that is not food, everything that is not necessary with which to reform and replace tissue must tax, excite, unduly wear and obstruct the delicate organs that are compelled to transmit, resist and expel it. As the living organism, well or sick, is the same organism and as there is no radical change in its structures or its functions and no radical change in its elemental needs in the two states of existence, what is needed is a system of care that is equally applicable to both the well and the sick. The laws of being are the same in the most vigorous states of health and in the lowest depths of disease; the constitution of being does not change with the varying states of being. We need a system of care that does not do violence to this constitution merely because the organism is sick. None of these essential requirements are met by any drug system of so-called healing, whether it existed in the past or is contemporaneous.

Allopathy, homeopathy, eclecticism: name the system of drugging what you will, they are all offshoots of the same principle—they all live and thrive on the falsehood that the body, in its crises, needs poisons to assist it in its restorative work. This is a terrible falsehood, a horrible deception and one over which all who know better cannot avoid becoming indignant and mournful. So long as the people

are taught to think of drugs

As a God
Who can make alive,

sickness must continue to abound and chronic disease must ever increase.

What means shall we employ, to supply, to invigorate, to preserve life except those very means upon which life has always depended? How can we expect to preserve life with its foes, to invigorate with the causes of weakness, to supply needs with that which meets none of life's needs? It is a common delusion that strength actually resides in drugs or in what are sometimes called "strengthening medicines." Even a horse knows better. He prefers oats to poison. The absurd idea that those many poisons, which we derive from the animal, vegetable and mineral kingdoms, may stimulate, depress, moderate, sustain and invigorate the functions of life in such ways as to be beneficial, cannot be entertained by the rational mind. Sedatives, anodynes, analgesics, etc., only cause the body to tolerate the presence of the cause of disease; they do not hasten the expulsion of cause. However favorable the transient impulse provoked in the system by noxious and irritating substances and treatments may seem to be, the tissues soon lose their susceptibility and cease to respond to their presence. They are literally worn out and are too weak to act at all or can act but slightly. The result may be every namable disease.

Since the symptoms occasioned by the introduction of drugs into the body are identical with those occasioned by the presence of the cause of disease, it follows that the drug has no more power to restore health than has the cause of the disease for which the drug is given. In short, recuperation and recovery are never the results of medicine nor of the cause of disease, but are always results of the operations of the processes of life and the conditions that maintain health. Any benefit that accrues to the health of an organism must come through the ordinary physiological acts and such modifications of these as the circumstances may demand and not through any non-vital work of external substances. Drugs serve only to occasion morbid changes in the functions and structures of the body and this can never result in health. To produce disease is not to restore health. To damage the structures and impair the functions of the organism does not restore structural integrity and functional efficiency. Physic is a curse and pellets are a lie.

The monstrous absurdity of the effort to restore health by the use of substances the natural effects of which are destructive of living structure and oppressive of function should be apparent to every one of my readers. Of all the systems of charlatanry which have been popular among mankind, that of giving sick people poisons with which to cure them is the greatest humbug. If ever there was a delusion deep, world-

wide, almost universal and terribly ruinous—if ever the human race, at any period of its progress, from depths of barbarism to its present state of enlightenment, were spell-bound, given over to believe a lie, that they might suffer needlessly and die foolishly—it is the delusion that leads to treating the sick with poisons.

Everyone seems to think that in the slightest abnormal state, they should consult their little boxes of pills or their little bottles of brown mixtures, red lotions and green tinctures—that a poison is the sure remedy for whatever ails them. The sick would scarcely be said to be cured, however perfect the recovery, without the employment of some medicinal means. Hence the cure is referred to some external rather than internal resource; it is the operation or the effect of something foreign to the organism and not the result of the operation of forces resident in the organism. If it is admitted that the forces of the organism are operative in the restoration of health, it is assumed that they must be stimulated or goaded by measures capable of exciting or drawing out defensively the actions of the organism.

No man of science, no matter how learned, can guarantee that a life-destroying substance can and will produce life-saving results. He cannot even guarantee that his drug will occasion the particular form of resistance and expulsion he expects. He cannot be sure, before he administers his poison, that his cathartic will not be expelled by emesis. In all cases the element of uncertainty exists because the individual capacity for vital expression, for action and reaction, is an untried and unknown factor. But one thing is certain: namely, a poison is always a poison and never a beneficial substance.

By no contrivance of man has it ever been demonstrated that carbon monoxide is a better substance to introduce into the lungs than oxygen, nor can it ever be demonstrated, for we know that it is deadly when breathed into the lungs. Poisons are such because they cannot be used and cannot be carried into the body without producing immediate or remote ill effects. We cannot rely upon such substances to restore us to health for the reason that we cannot be damaged into health.

As there is no intelligible connection between the drug-remedy and the patient's malady, the practice of medicine is truly and wholly empirical. If a man gets better after taking a poison, it must be something else that produces the recovery, for the sole effect of the poison is to produce disease or death. A physician's prescription has no power to transform a poison into a food; a poison remains a poison under all conditions and circumstances. When physicians and patients learn that drugs and their confreres are intrinsically bad, not merely relatively so, human progress will have greatly advanced.

In the medical system the disease is the primal object of solicitude; an incomprehensible something must be neutralized, cast

out or outwitted by some professional legerdemain. The hygienic plan consists of attending to the health, to all the matters concerned in the production of living structure and function, and to all impediments to these manifestations of life. It attempts to supply the body with what is required for its operations by graduating them to the altered condition and wants of the sick. Hygienists place their reliance on those means that are all-efficient and all-sufficient in sustaining organic structure and function in the healthy state. They reject all means that are injurious to vital structure and hindrances to vital functions in the healthy state. It is absurd to think that on special occasions, substances that are known to be inimical to health may be vivifying means, differing from those usually necessary and producing on local parts a curative act that differs from the ordinary nutritive and reproduction processes. To assume that if a substance is inimical to health, it is antagonistic to disease, is to assume that disease is something *per se*, and that it is a foe of life.

When a man is led by the practitioners of any school of so-called healing, no matter what the means of treatment may be, to forsake those hygienic rules which underlie fundamentally everywhere, human health, and to rely upon the short cuts they offer, he is led blindly into greater deterioration and suffering. Not realizing the superior efficiency of hygienic care, they resort to one poison after another, always hoping that the last one used will be the one that restores health. It is assumed that the more the organism is fretted and worried by the administration of poisons or by manual and mechanical manipulations and by the application of heat and cold and electricity and by foolish maneuvering, the better off we become, although the evidence is all around us that such treatments invariably make us weaker.

Drugs can have but one primary effect when sent into or applied to the body and this is the effect of bringing the forces of the body into activity in defense of the integrity of its structures and functions. When drugs are administered, the organism is provoked to vigorous resistance, but that the drug is not always completely expelled from the body is shown by the great prevalence of drug-induced chronic disease. The permanently impaired and enfeebled constitutions that result from drugging the sick are seen on every hand. Drugs, which, by their chemical relations to organized structures, annul their functions and impair their structures, suppressing the power to feel or the awareness of the diseased condition and that divert the organic attention from the normal processes of life to the task of expelling the chemical, must always and inevitably tend in the direction of death. Although they embarrass the healing and recuperative work, if the patient recovers, they are sure to receive the grateful benison of friends.

How is it that, when the body is impaired and barely able to deal with the causes of disease, it is supposed to overcome both the original cause and the drug at the same time? Does it not seem likely that drugging is a most common cause of death, that it is a common cause of the chronic disease that abounds? In his *Faust* Goethe well describes the work of the physician in the following lines:

Thus with our hellish drugs, Death's ceaseless fountains,
In these bright vales, o'er the green mountains,
Worse than the very plague we raged.
I have myself to thousands poison given,
And hear their murderer praised as blest of Heaven,
Because with nature, strife is waged.

A distinction is made between formal or professional medication and self-medication, but nobody has ever yet explained how or why a poison given by a physician works good and when taken by the patient (even the same patient) without the services of a physician, works evil. Its character is not altered by the one who administers it. Its relations to the living structures are not changed. It is a poison, no matter who gives or takes the drug. Being a patient and taking drugs according to professional usage and dying according to law, though

"it sugar over the spider,"

renders the offense nonetheless heinous.

How do we draw a distinction between being poisoned by a physician, who administers his poisons with the intent to cure, and being poisoned by a malefactor, who administers his poisons with murderous intent? How does the poison cure in one case and kill in the other? How does the intention of the administrator change the effects of the drug? Does arsenic cure when prescribed by a physician and kill when administered by an enemy? Or does a drug that is killative in doses of certain magnitude become curative when given in doses short of lethal?

There is a myth abroad, and it is assiduously cultivated by the propagandists of the cult of medicine, that the old medicine of the past is dead, and that a new more effective and genuinely curative medicine has taken its place. Under the new medicine the very sick are supposed to be a diminishing and vanishing race, while the average man is faring better under the ministrations of present-day physicians. The myth is given verisimilitude by various questionable devices and superficial facts and near-facts. The growing incidence of degenerative diseases and the shortening of the actual (as distinct from average) life-span reveal that the myth is only that and not fact.

Physicians of today give fewer drugs and smaller doses of poison than formerly, but what their drugs now lack in bulk or quantity, they make up for in concentration. The ingenuity of chemists has been exhausted to furnish physicians with active principles detached or separated from their associate constituents in the

substances formerly prescribed, and which, in the past, served to dilute their drugs. In addition to this fact, a great part of the drugs now given is administered by means of the hypodermic needle. Thus all the drug gets into the blood and tissues and does so immediately. When administered by mouth, they are altered by the secretions of the digestive tract, expelled wholly or in part by diarrhea or vomiting or are only slowly absorbed so that the dose immediately received is small. Practically, the age of heroic dosage is with us again.

The idea of drugging the sick is wrong in its inception and fearfully destructive of life. To call drugs medicines is to do violence to language. It is a strange delusion that substances which, in their nature, are life-destroying, can be made life-preserving by employment by a class of men calling themselves physicians. We are persuaded, under the delusion that poisons are medicines, to take into our bodies substances that, if they were not immediately ejected by vomiting, diarrhea, diuresis or other expulsive effort, would result in immediate death, and we believe that the taking of such poisons is beneficial. Substances that are capable of occasioning speedy death, if not expelled, and that do occasion violent symptoms of disease, are certainly not proper substances with which to seek to restore health.

Drugging is not only destructive of health, it is destructive of good morals. The man who violates the laws of life is not to be benefited by the idea that he can escape the consequences of such violations by taking a pill. If we can violate the laws of organization and escape the racking pains and torments that follow, by taking remedies that do not involve the discontinuance of the violations, we foster the idea that all violations can be atoned for by some hocus pocus.

The treating measures fail for the good and sufficient reason that those who invent them or advocate them fail to recognize that healing is an internal process requiring different means than those that the disease-treaters employ. No sick man, who is capable of recovering, needs to do anything in order to get well, other than to learn and understand the laws of life, as applied to man, and to obey these laws implicitly. In this principle is not to be found any plan of treatment. It provides only the basis for a way of life. The sick evolve into good health when the causes of their suffering are removed and the normal needs of life are adequately and consistently supplied. In this program there is no place for cures.

If tobacco smoking contributes to the production of lung cancer, certainly there is no possibility of recovery so long as smoking is continued. In like manner, all of the other harmful habits of life must be corrected, if the sick man or woman is to acquire genuine health. To permit the smoking to continue and to seek to cure the effects of this by the administration of drugs, while fully in keeping with present-day

medical practices, is a fatal folly. The care of the sick has always been approached by physicians from the wrong side. Disease arises from violations of the laws of life. Recovery depends not upon the administration of poison, but upon a return to obedience to the law. Guidance, instruction and direction, as to how to live in obedience to the laws of life, are the needs of the sick, not treatment with drugs and operations by surgeons.

WHAT IS NEEDED

Chapter 36

Medicine, along with many other revivals of ancient civilization, rose into social and political prominence in the Renaissance. Up to this period, it had never enjoyed the respect and trust of the people and had proved unable to displace the priestcraft as the protector of the people's health. The past can never be restored; a Renaissance is never actually a rebirth. It may draw heavily upon the past for inspiration and guidance, but new forces and new trends inevitably shape its ends. The Renaissance was not a return to Greek and Roman civilization but a superimposition of Greek and Roman elements upon new elements that had come into existence during the long dark night of the Middle Ages. Thus, it was that alchemy rather than a rebirth of hygiene emerged triumphant from the foul womb of antinaturalism that reigned the minds of men during the Dark Ages.

From Hippocrates to the present, medical systems, varied in number and character, have arisen, been established, flourished for a time and passed away. Often two, three or more of these systems existed at the same time, opposing each other with the most startling facts and arguments, each charging (and correctly), the others with destroying their patients. Often they have followed each other with such bewildering rapidity, with theories as grotesque and fanciful as they were false, and practices as fatal as they were unsound, that the people have been unable to keep up with their rise and fall. History has recorded that each generation of men has repudiated the theories and practices of the preceding one. But though these systems have been in deadly opposition to each other, they have all agreed, and those now existing agree in one fundamental respect—that disease is to be cured by the use of substances which, if administered to a man in health, will make him sick.

Despite its appalling cruelties and its inhuman exploitation of the sick, the period from the Renaissance to the present has been a medical era. In all respects it has been the era most subject to the false theories and fatal practices of the medical profession of all the ages. The resolute optimism with which the people have accepted every medical innovation, every new complication of life and of care of the sick, as a sign of progress was, therefore, medical optimism—an optimism that has proved to be stubborn and well-nigh ineradicable, even in the face of its obvious failure. It refuses to abandon the foolish belief that all discoveries, and all new appliances and contrivances, which issue from the unscrupulous minds of chemists and engineers, necessarily constitute improvement, a new progress, an advance in the

assumed upward advance of mankind. The fast accumulating complexities of medicine, which tend to keep pace with the rapidly accumulating complexities of life in general, have provided the profession with more ability to exploit the sick, but with nothing that is truly constructive in its application to the sick.

The art of healing, as taught and practiced in the middle of the twentieth century, professes to be the results of the accumulated wisdom of 3,000 years. During all this period, a privileged profession has been supposedly engaged in investigating the science of living, the conditions of health, the cause of disease and the means of *cure*. Many thousands of men, in many countries, and in all these ages, have made this the business of their lives; and, in consideration of their devotedness to this great work, they have been honored and rewarded; they have been considered the benefactors of the race, and their calling is often connected with the attributes of divinity. Medicine is said to be a noble profession, a divine art, a glorious science!

Nowhere in this world is the medical profession more numerous or more respected than in the United States. We have over three hundred thousand regular physicians and some thousands who are considered irregular. We have many medical colleges, of highest standing, some of them connected with our universities; we have academies of medicine, county, state and national medical associations, intended to collect into one burning focus all the medical knowledge and skill of the age. We have hospitals, sanatoria, clinics, research institutions and dispensaries. In a word, there is nothing wanting by which medical science can produce its legitimate effects upon the public health. Never had a profession greater advantages, nor could greater be desired. Its members are of the highest social rank; many of them are looked up to and revered; they possess unbounded influence, both with individuals and legislative bodies. Whatever law they recommend is passed—whatever they advise is speedily accomplished. There is, therefore, no lack of power to carry out the dictates of their wisdom. Most of these physicians mean well. They are not wanting in zeal or benevolence. If their knowledge and power have not produced the desired results, it is because there is something wrong both with their knowledge and with their means.

The medical profession, with all of their years of experience, all of their costly training, their colleges and libraries, their research institutions and their magnificent hospitals, their voluminous *Materia Medica*, and their proud boast of science, cannot cure disease. Watch them and you will discover that although the fashions in drugging rapidly change, they treat their patients with routines of drugging and surgery while giving very little attention to the organic needs of the organism, and almost no attention to the causes of the diseases with which their victims suffer. Organic ailments are regarded as incurable

and ailments that are not organic tend to become so under their mischief-making plans of treatment. Ailments that speedily get well if left alone may become serious and fatal under their mismanagement.

If, in spite of the increased knowledge of pathology, medical men still stand hopeless in the face of the mounting tide of disease, if they are still forced to confess that so many diseases are incurable, if their drugging gives such meager results, is the public not justified, nay is it not bound to investigate and apply other means that promise a larger outflow of health? In the name of humanity, in the name of genuine progress, should not the medical profession get out of the way and cease its interference and its resistance?

The absurdities, barbarities and whimsicalities of the medical systems that have existed and do exist are recorded in their past history and are evidence in their present theories and practices. Each generation has been compelled to repudiate the theories and practices of the previous ones and, while congratulating itself upon the improvement it has made, nevertheless, has perpetrated, if possible, grosser absurdities and commended more destructive practices than its predecessors. Individually, each thoughtful professor alternately lamented the incongruities of his system and aroused his ardor to more desperate experiments in the hope of obtaining better results. Each year since the beginning of the nineteenth century, medicine has grown progressively more iatrogenic. Year by year its toxicity (virulence) has mounted.

The drugging system makes no genuine progress. A thing that is essentially wrong does not make progress. The dead do not grow; error does not improve; life and truth alone are capable of going forward. Hopping from drug to drug, from pill to pill and from potion to potion is not progress. Nothing more dramatically reveals the medical man's obsession with the thought that the proper approach to every problem is a drug than the fact that he is now searching with frenzied zeal for a drug to control appetite. Nor does it matter to the men of medicine what the "side effects" of their appetite controls may be, they will employ them if they find drugs that will depress the desire for food. They are now seeking drugs to control conception and are trying out several of these with no concern for the damage that must inevitably result to all who use such drugs, and apparently no thought as to the generic damages that must result from their use. If you have a problem, no matter what it is, somewhere there is more money for research and we'll find it.

The twenty-five hundred year record of medicine has been one of consistent failure. The hodgepodge of palliatives, serving only to bolster the hold of the medical man on his victims, has never effectively been dealt with, but has often accentuated the causes of the sufferings of humanity. They tinker with effects. In the meantime, they

promise, they plead, they threaten, they deceive, and finally they maim and kill, but they persist in not recognizing the simple fact that the genuine causes of human suffering lie in the behavior patterns, the genetic patterns and the nutritional patterns of the people. Can we reasonably expect a "healing craft," whose every existence and continuance as well as financial welfare, depends upon the presence of an unceasing prevalence of sickness, to educate the people in genuine means of preserving health? It would be contrary to their own financial interests and power.

What is commonly called "folk-medicine" is nothing more significant than surviving relics of professional medicine of a past era. They are practices that have hung on in the public mind and in custom long after the profession that first introduced them and practiced them has abandoned them and adopted other methods. The existence of folk-medicine should not puzzle us. It belongs to the past and will certainly die if ignored.

A study of the evolution of the practitioner through the centuries impresses one with the fact that the physician panders to the popular tendencies of his time rather than conforms to any genuinely scientific principles. While boasting of his progress and his scientific attainment he follows the fashions in pills, as these come and go like fashions in women's clothing. Viewing the panorama of medical notions and practices over the last twenty-five hundred years the question naturally forces itself upon us: What is needed?

Medicine is about twenty-five hundred years old. Man existed on the earth for a long time before there was a medical profession. His success is evidenced by the fact that he multiplied and spread over most of the earth, including the islands of the south Pacific and Australia. He lived in the far north, in the tropics, in the desert and in the mountains. It is only logical to assume that a being that managed to survive and increase under all the vicissitudes of existence to which man was subjected, carried with him a means of caring for the sick that was at least as effective, if not more so, than the ephemeral cures that have had their vagues during the past two and a half centuries.

Before the coming of the shaman, long before the rise of the priesthood, long antedating the origin of surgery, there was man. Devoid of the hypotheses and arts which they now boast of as accumulated science, man had to depend upon the elemental factors of daily life when he was injured or sick. Food, water, air, sunshine, warmth, coolness, activity, rest and sleep, cleanness, emotional poise and a few other simple means that bear a physiological relation to his organization were his only reliance's. They still constitute the only usable means, activities and conditions in his environment. Not until the rise of the Hygienic System in the early years of the last century, a system that urged a radically different approach to the problems posed

by disease, was there offered to the sick a sane method of care. The hygienic approach is based upon fundamentally different principles, and it cultivates practices that are equally different from the older practices. It is a system that is diametrically opposed to all medical systems, whether of the past or of the present, in this fundamental respect: viz., that it repudiates the employment of all agents and processes that are naturally destructive of the health and vital integrity of the sick, and employs, as its means of care of the sick, and to restore them to health, only those means which tend to keep them well.

It is a popular error that what is called cure of disease is equivalent to or includes the recovery of health—an error which is fraught with disastrous consequences to millions. It is one thing to cure disease, it is quite another to restore the sick to health. The numerous sequelae that follow diseases that have been cured are irrefutable evidence that cure does not restore health. Under drug treatment, the symptoms may subside, but in their places are left ailments that are often serious and sometimes fatal. Kidney disease, deafness and other ailments sometimes follow scarlet fever; lung, stomach and nervous affections follow measles; stomach, liver and kidney disease follow typhoid fever; pleurisy, chronic bronchitis, tuberculosis and other ailments sometimes follow pneumonia; enlarged spleen and great emaciation follow malaria; even the common cold is frequently followed by sequelae that cause medical men to list it as a cause of more serious disease.

Almost every acute disease may be followed by chronic aftermath's which demonstrate the vast difference between curing disease and restoring health. It is these chronic ailments that the hygienist is most often called upon to look after. This is true because the medical man can do nothing for them; he cannot even suppress them. The processes of drugging are first tried, after which the patient is often willing to turn to nature's own plan of care.

It should be interesting to inquire whether or not the same hygienic care that remedies the aftermath's of drug-treated acute disease (sequelae) would not have prevented them, if employed in the first place instead of the drugs. The answer is that hygienic care nearly always does prevent their development. It is not denied that in feeble cases or in clients that fail in carrying out instructions, exceptions may be seen, but the rule is invariably that with proper hygienic care of the acutely ill, no sequelae follow, unless in some extreme cases in which power is at low ebb.

For over two thousand years the people have been treated by medicine to cure their diseases; the result has been an increase in disease and frightful mortalities, with great numbers of premature deaths. This can be ended only when the people are themselves enlightened in a true health science. It does not speak well for the

intelligence and honesty of physicians that to this day they have denied, discredited and fought against the Hygienic System and have preferred their arsenal of toxic drugs to the normal things of life.

The powers of the "doctor" are limited. He cannot hope, even by the most enlightened plan of care, to usurp the prerogative of healing which belongs to the living body. This power is jealousy reserved by the living organism for itself. The same power which brought us into being, which causes us to grow through the various stages of development to manhood and womanhood, also repairs the organism, sustains its growth, performs its functions, heals its lesions of accidents and diseases. In a word, it constitutes the only preserving, healing and reparative force. The vigor with which these vital operations are performed must, therefore, correspond with the amount of force on hand.

So long as medicine, with its poisons and its palliatives, continues to dominate the thinking and the practices of mankind, there will be nothing but weakness, disease and misery and the ever present threat of cancer, heart disease and degeneration. Doses of physic (poison), all of which are known to the practitioner of physic to be inimical to health, to purge man of the results of a non-biological way of life, are irrational.

It is idle, nay puerile to suppose that a change of condition of the organism, as from health to disease, alters the relation of the poison to the living structure, so that, after the structure becomes sick a substance that was poisonous in health is no longer so, but is healthful and restorative. It is such "reasoning" that has perpetuated the stupendous fraud of poisoning people with the view of restoring them to health. The difference between health and disease is not radical. The invalid is subject to the same laws, affected by the same agencies, and is to be cared for on the same principles as the man in health.

Newness is the very breath of life, the essence of reform, the meaning of everything! Every generation inherits a burden of bad old ways—new ideas are the "pearls of great price" to each generation. The health of the people on the one hand and the success of the drug industry on the other exclude the one, the other. A healthy people will bankrupt and destroy the drug industry; a successful drug industry will wreck the health and shorten the lives of the people who make its success possible. The faults of the drug medical system are inherent and basic, not accidental and superficial. A real scientific examination of its principles and practices reveals that a reform of medicine will not be sufficient, even if the reforms were to work as well as they think they will, but a basic and revolutionary change is needed. Drug reform is an illusion. Fewer drugs, more caution in administering them, lower costs, more modest claims for them, smaller doses, fewer doses, and all the other reforms that may be offered, while they may take off some of

the rough edges, still leave the drug system intact. Not reform, but annihilation is the need.

Medicine changes slowly. Santillana says, "The standard pharmacopoeia of a hundred years ago was still largely Hippocratic." The most rapid change has occurred during the past fifty years, but medicine is still characterized by its vain effort to upset the unalterable and eternal order of the universe. The substitution of cunningly devised expedients for the normal processes of life and the reliance upon chemical tricks instead of upon the authority of the laws and requirements of being are attempted with the same blind expectation of success as that possessed by the Medieval alchemists.

In their determination to reverse the eternal order of nature the members of the drugging craft have invested their drugs with powers and properties that belong only to living structures. In the entire universe only living organisms possess physiological properties or are capable of physiological actions. As soon as it dies, the organism loses its physiological properties and its power to act physiologically. A living stomach may perform a very important physiological activity, a dead stomach can do nothing at all. A living arm may perform a number of acts, a dead arm is powerless. The living heart performs day and night year after year, a dead heart is as actionless as a dry stick or a clod of earth. If organs that were once alive and performed a number of physiological actions cannot perform any actions of any kind when dead, how can we invest lifeless plant, animal and mineral substances with the power to act physiologically? How can we endow them with physiological properties?

We have not the slightest evidence that the ancients ever conceived of such a monstrous absurdity. Their magic materials were employed as demon chasers, not as pharmaceutical agents. We credit primitive man and the ancients with animism; we are guilty of believing in animism of the crudest and most fantastic kind. We not only invest drugs with the power of action, we invest them with power to act physiologically and therapeutically. They do the work that the ancients credited to their gods. They perform a whole catalogue of medicinal actions although no one has ever seen them perform anything other than the mere union and disunion that is called chemical action.

Even food lacks powers to act physiologically. Food may be used physiologically by the living organism, but the food itself is passive in the hands of the physiological processes of life. There is a fundamental difference between nutriments and what are termed, by the men of medicine, medicaments. We are not to confound nutriments with medicaments. Nutriments are the materials upon which metabolism is, and can only be, established. As the organism is constantly working and using up and discarding its materials, metabolism, as the supporter of this work, must always remain unimpaired and

unchanged, drawing upon a daily supply of nutriment composed of usable basic materials. Any disturbance of metabolism requires an adjustment to adequate fundamental food materials.

All substances, whatever their origin, which are forced upon the organism, and which do not belong to this fundamental material, cannot be employed in the processes of metabolism and can serve only to disturb and impair metabolism, and must be classed as poisons. Any substance that cannot be used in the synthesis of cell-substance itself, is properly classed as a poison. Whatever is chemically incompatible with the body's structures and/or physiologically incompatible with the functions of life is a poison. The first class corrode, decompose and destroy some part or portion of the constituents of some organ or structure; the second interferes with the functions of life and exhaust its powers.

Only those substances that are indispensable for the evolution and repair of the organism in a state health, can be used by the body in a state of disease in carrying out the metabolic operations upon which the body must always contend, not alone for the original development of the body but for all subsequent repair.

Poisons, because they have no place in normal metabolism, can have no legitimate place in the care of the sick body. I have never been able to discover any rationality in the administration of poisons in sickness, which would prove a disadvantage in health when the powers of life are in the best condition to resist encroachments. Sickness does not necessarily imply such a state of body as necessarily to demand what may be fairly labeled poison. I can conceive of no more monstrous idea than that the more critical a case, the more poisonous the drug should be that may cure.

Iron, sulphur, calcium, iodine, and other elements, though normal constituents of the human organism, cannot be utilized as such. The animal organism can, generally draw only upon organized substances for sustenance—water and oxygen being the only exceptions to this rule. Human metabolism differs radically from that of the plant. Whereas the plant can assimilate the elements of the soil, water and air and synthesize organic compounds from these, the animal is forced to draw upon the plant for its nutrients. So much study has been given to chemistry and to the effects of drugs, while the physiological significance of the various food-stuffs has been largely neglected. Food is still relegated to a subordinate position, while drugs take first place in the care of the sick.

I wish it were possible to bring people in general to understand that those things which, if taken into the body in health occasion sickness, cannot by any means occasion health if taken into the body by the sick. How can it be possible that substances, which as is everywhere acknowledged, cannot in the least degree contribute to the

maintenance of health, nor to the support of the actions or functions of life, and which, as is also everywhere admitted, are inimical to both health and life, can restore the sick to health? We marvel that a proposition so preposterous has so long been believed by the people and their physicians.

All the healing power that can possibly be brought to bear upon a pathological state in a living organism is the healing power inherent in the organism itself. All that anyone else can do is to supply the physiological needs of the sick. He may provide whatever of rest and warmth, of water and air, of food or abstinence, that the sick organism can make constructive use of; he can stand guard and prevent others from doing harm. Poisons supply none of the physiological needs of the living system; on the contrary, they are one and all injurious to the living structure and suppressive of living activities. Their presence occasions disease, not health; death, not renewed life.

It is not difficult to destroy life; it is even easy to kill an infant. A slight scratch of the physician's pen that dictates what may be, according to him, a "little too much" of his "remedy" will snuff out the life of the infant. How much of a drug is too much? How can any physician ever know until after he has given the dose that, while most infants survive it, may prove fatal in a particular case? It does not do to declare that the infant was allergic. This is a dodge, not an explanation. It is an effort to hide the fact that the infant died of poisoning. It is an effort to shield the physician and the poisoning practice.

The Lancet (London), August 5, 1961, gives the utterance to a view that is essentially that of hygienists. It says: "The idea of 'whole body metabolism'—of the total economy of an organism maintaining a complex homeostasis (functional equilibrium) between many elements within its own boundaries—receives, perhaps, less than due attention." This is true, not alone in our commonly accepted piece-meal approach to the problems of health, but it is much more so in our haphazard and fragmentary approach to the problems presented by disease. When the field is narrowed down to an alleged *specific* certainly there is an ignoring of the complexity of the total process of metabolism. Fundamental to the recovery of health is the removal of all causes that have impaired and are maintaining and intensifying the impairment of health. Medically, very little attention is given to the causes that impair the general health. When they think of cause they think in terms of some specific cause. Illness is likely to be ascribed to inherent defects in the human organism, to heredity, to the weather, particularly to cold weather, to germs, viruses, to anything, in short, but that would necessitate a change in habits, a measure of self-control or denial, or some temporary inconvenience. If the medical profession does not

directly foster these notions, they certainly do not point out their fallacy. Indeed, there is reason to believe that they are as unconscious of the fallacy of these notions about cause as are the nonprofessional portions of the population. People get sick by habit. They grow into disease by long-continued, though slight transgression, in most cases. So, also, must they grow into health by observing the right conditions. These are not heroic but mild.

Hygiene is not offered as a substitute for drug treatment. We do not think that drug treatment has any value; we deny that it can ever restore health. Admitting that drugs may, in many instances, apparently improve functions and structures and "restore" more normal and healthy action of the various organs of the body; we call attention to the undeniable fact that this "improved" condition is apparent only and is never lasting. A drug may be given (*veratrum*, for instance) that will seem to control and regulate the excited pulse, but it depresses heart action and does no real good. Soon the drug is excreted and the pulse is as excited as ever, even more so. The apparent improvement in this instance arises out of the cardiac depression and is no genuine improvement.

A laxative may occasion action of the bowels in constipation, but it does not remedy the constipation and its supposed benefit is not susceptible of indefinite extension. An antacid temporarily relieves the distress of "acid indigestion," but it fails to remedy the impairment of digestion that is present. The drug must be taken after each meal and it produces troubles that are commonly far worse than those for which it is given.

Tea and coffee appear to remedy nervous irritability in a wonderful way, relieving headache, gloomy foreboding, etc., but they appear to help only to make matters worse. Aspirin temporarily relieves headache or the pains of arthritis, but its continued use over weeks, months and even years, while producing evils galore, never remedies either the headache or the arthritis. All drug induced "relief" is fictional. All drugs, if their employment is continued, result in a variety of evils.

Instead of drugs producing health, each and all of them produce disease. Some of them are deadly even in small doses. If a drug is deadly enough to destroy life when taken by the healthy, it is no less so in disease. Every physician knows that a full dose of any of the stronger poisons is quite as fatal to a sick man as to a well man. No matter that some of them, in certain doses, seem to restore normal action, their essential effects remain always and ever the same.

The time has arrived in the evolution of man's thinking about life and living, more particularly about health, disease and healing, when he will turn from the magical, supernatural and antinatural means and measures that have characterized the period since his

abandonment of primitive hygiene and return to the normal things of life as the true sources of aid in times of illness. It is true that the laws are nearly all favorable to the medical profession and unfavorable to the welfare of the people and definitely opposed to any group that may seek to enlighten the people as to the proper ways of health and life, and it seems that the greater grows the public distrust of the profession and its practices the more determined are the law makers to protect and preserve the system of poisoning. While these constitute formidable obstacles in the path of the militant hygiene, there are other forces at work that are counteracting the forces of medical tyranny and medical evil. The evidence is growing that more and more people by the hundreds and by the thousands, are growing aware of the criminal nature of medical practices, that the medical system is not only morally wrong, but that it is incapable of solving the simplest as well as the most urgent problems that confront the health seeker.

For the first time in history the regular press and the popular magazines have dared to discuss, openly and fearlessly, the evils of the myriad's of wonder drugs with which the market has been flooded. People have learned whom we have never been able to reach that there is something rotten much closer to home than Denmark. Developments are on our side and no legislature can long continue to disregard the demand of the people for relief from the evils that abound.

EPILOGUE

Dr. Herbert M. Shelton, in his ninetieth year, died peacefully in his sleep, at home in the presence of his family on January 1, 1985. A record-breaking snowstorm closed all the main highways in San Antonio and in Alamo Heights, Texas, on the eve of his funeral on January 3, 1985. At Chapel Hill Memorial Gardens in San Antonio, his headstone is marked with the inscription: *"Let Us Have the Truth Though the Heavens Fall."*

“ . . . Here again I am tempted to cry woe upon these foolish doctors whose consciences are seared with a hot iron, who do not care in the least for their patients, and will be called to a terrible account for their criminal folly on the day of judgement. Then they will behold Him whom they have pierced by neglecting their neighbor's welfare, while pocketing his money, and will see at last that they ought to have laboured night and day, in order to aquire greater skill in the healing of disease. Instead of this they complacently go on trusting to chance, prescribing the first medicine they happen to find in their books, and leaving the patient and the disease to fight it out as best they can. They do not even trouble to enquire in what way the medicines they prescribe are prepared. Their furnace, their drugs are at the Apothecary's, to whom they rarely or never go. They inscribe upon a sheet of paper, under the magic word “Recipe,” the names of certain medicines, whereupon the Apothecary's assistant takes his mortar and pounds out of the wretched patient whatever health may still be left in him.

“Change these evil times, oh God! Cut down these trees, lest they grow up to the sky! Overthrow these overweening giants, lest they pile mountain upon mountain and attempt to storm heaven! Protect the conscientious few who quietly strive to discover the mysteries of Thy creation!”

— 15th century alchemist *Basil Valentine*

"Dr. Herbert M. Shelton was one of the most courageous thinkers of the modern world. He brought to its highest point the science and art of fasting and natural living. He hurled invective at the doctors of his day, writing his best works when his career was threatened; and after much persecution at the hands of the medical faculty he has delivered to the world a legacy—a treasure unsurpassed—namely, the true means to pristine health. Dr. Shelton holds the title of doctor (teacher) more righteously than all the philosophers, physicians, scholars, scientists and poets of this age. He defended our personal freedom and the Truth, and succeeded more than his predecessors in exposing the frauds and lies of the physicians, politicians, the colleges and the so-called scientists of the modern western world."

—Thomas Lodi, M.D.

Dr. Shelton is the author of more than 40 books:

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| The Fundamentals of Nature Cure 1920 | The Exploitation of Suffering 1938 |
| An Introduction to Natural Hygiene 1922 | Syphilis 1938 |
| Food and Feeding 1926 | Health For All 1942 |
| Living Life to Live It Longer 1926 | Getting Well 1946 |
| The Vaccine and Serum Menace 1927 | Basic Principals of Natural Hygiene 1949 |
| Human Life Its Philosophy and Laws 1928 | Food Combining Made Easy 1951 |
| Serum Poisoning: A Medical Crime 1928 | Superior Nutrition 1951 |
| Orthotrophy: | Recovery 1953 |
| The Natural Diet of Man 1930 | The Joys of Getting Well 1957 |
| The Regeneration of Life 1930 | Human Beauty: |
| The Natural Cure of Tonsillar and | Its Culture and Hygiene 1958 |
| Adenoid Affections 1930 | Rubies In The Sand 1961 |
| The Hygienic Care of Children 1931 | The History of Natural Hygiene and |
| The Hygienic System Volume I | Principals of Natural Hygiene 1964 |
| Orthobionomics 1934 | Fasting Can Save Your Life 1964 |
| The Hygienic System Volume II | Vaccine and Serum Evils 1966 |
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| Orthokinesiology 1935 | Exercise 1971 |
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| Orthogenetics 1937 | The Science and Fine Art of |
| The Hygienic System Volume VI | Food and Nutrition 1984 |
| Orthopathy 1939 | Orthotrophy: Feeding in |
| The Hygienic System Volume VII | Health and Disease |
| Orthopathy 1941 | The Myth Of Medicine 1994 |

From Jean A. Oswald's *Yours for Health—The Life and Times of Herbert M. Shelton* (page 149):

"I was born in a storm and for the most part I have lived in a storm all of my life." (Herbert M. Shelton)



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